

CATALOGUE OF THE COLLECTION
OF NEW ZEALAND BIRDS

MANOR HOUSE

LETCOMB REGIS

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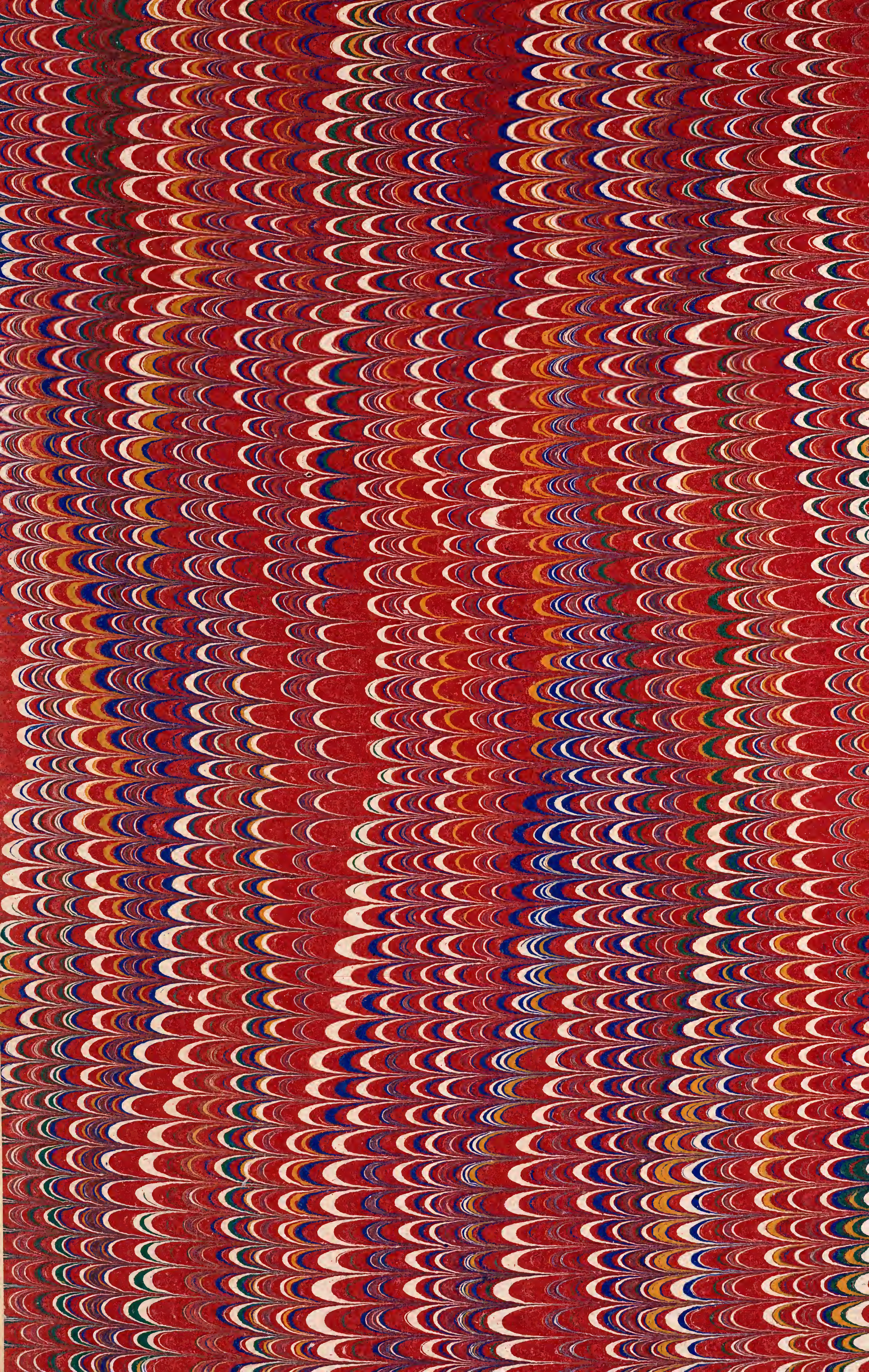


BY SIR WALTER L. BULLER, K.C.M.G.,

D. Sc., F. R. S.



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GUIDE
TO THE
NEW - ZEALAND BIRDS
IN THE
MANOR-HOUSE COLLECTION,
LETCOMB REGIS.

COLONIAL AND INDIAN EXHIBITION, 1886.

DIPLOMA *and* MEDAL awarded to Mr. S. WILLIAM SILVER, F.L.S., for his *Exhibit of* NEW-ZEALAND BIRDS (mounted by Messrs. Burton and Sons).

This Collection, which is one of the most complete in Europe, formed a very attractive feature in the New-Zealand Court at the above Exhibition.

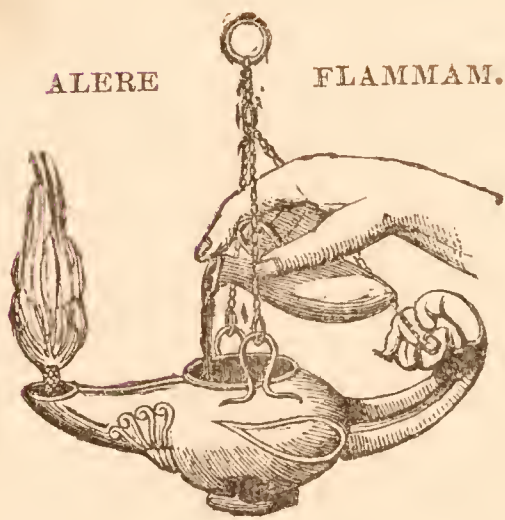
PREFACE.

THIS 'Guide' does not profess to give more than a classified list of the birds contained in the twelve cases forming the Manor-House Collection, with short explanatory notes for the information of visitors.

The woodcuts, for the most part, are borrowed from Sir Walter Buller's 'Birds of New Zealand,' where full descriptions and biographies will be found of all the species represented in this Collection.

Eight of these cases were on view in the New-Zealand Court at the Colonial and Indian Exhibition, 1886. The four cases since added contain many of the rarer species of New-Zealand birds; and the Collection, as a whole, may be regarded as a tolerably complete exemplification of a remarkably interesting Avifauna, many of the genera and most of the species being endemic or strictly confined to New Zealand and the neighbouring islands.

May 1888.



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Hocken (pencil) 387.

A CLASSIFIED LIST
OF
MR. S. WILLIAM SILVER'S COLLECTION
OF
NEW-ZEALAND BIRDS

(AT THE MANOR-HOUSE, LETCOMB REGIS),

WITH SHORT DESCRIPTIVE NOTES

BY

SIR WALTER L. BULLER, K.C.M.G.,
D.Sc., F.R.S.

LONDON:

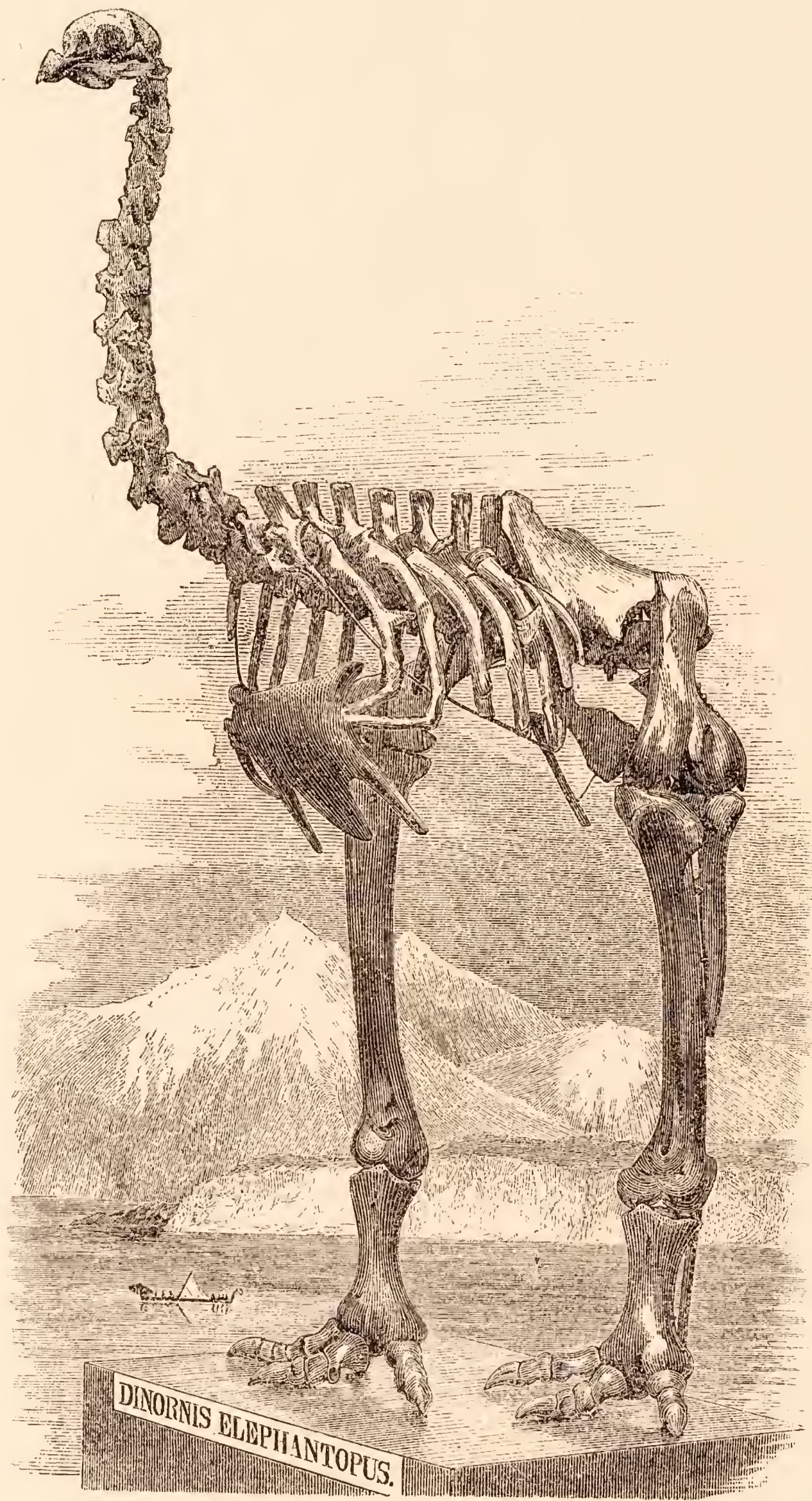
E. A. PETHERICK AND CO., 33 PATERNOSTER ROW.
1888.



PROF. HOCHSTETTER'S RESTORATION OF THE MOA.



SKELETON OF *DINORNIS GIGANTEUS*.



SKELETON OF DINORNIS ELEPHANTOPUS.



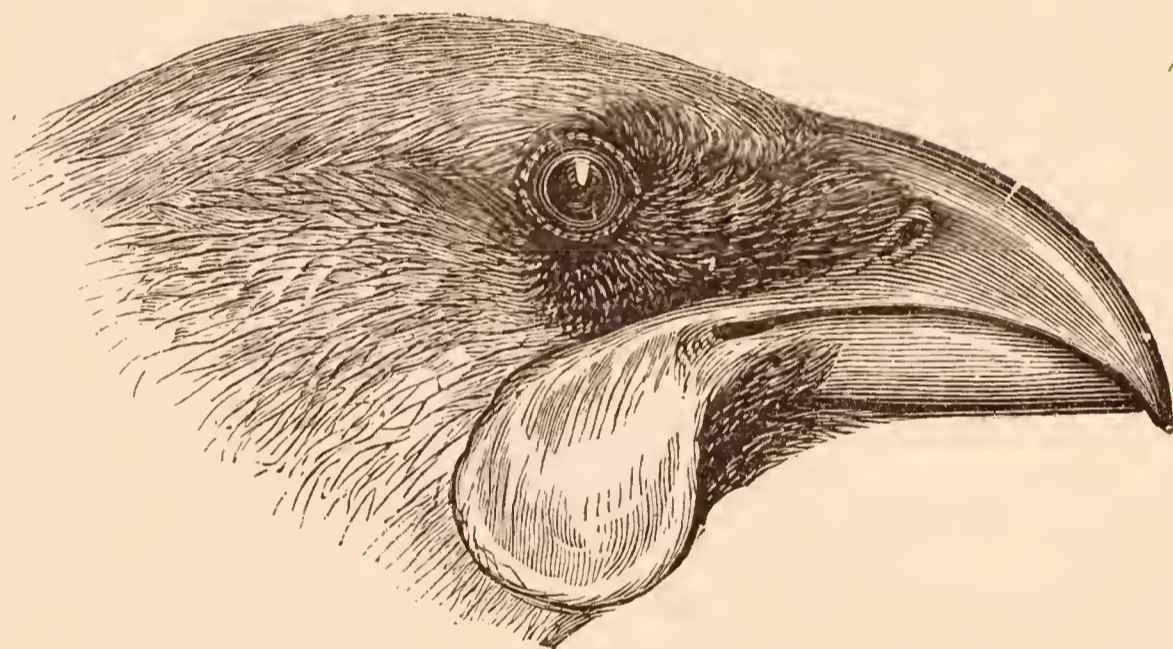
LEG-BONES OF DINORNIS MAXIMUS.

I. SUBCLASS CARINATÆ.

ORDER PASSERES.

Fam. CORVIDÆ.

Genus GLAUCOPIS. (Peculiar to New Zealand.)

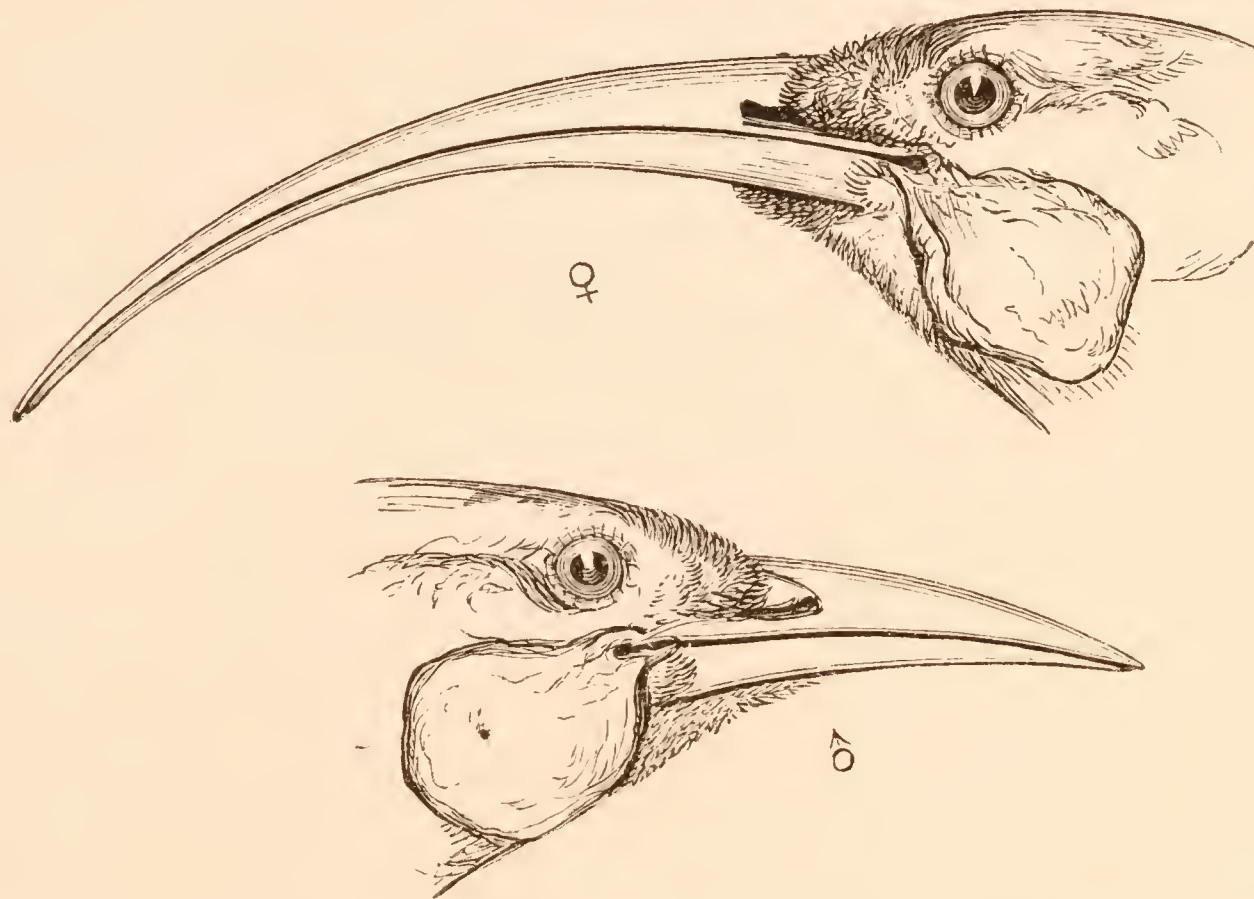


1. GLAUCOPIS WILSONI, Bonap. Blue-wattled Crow. "Kokako" of the Maoris. (Case II. Nos. 64 and 65.)
2. GLAUCOPIS CINEREA, Gmelin. Orange-wattled Crow. (Case II. Nos. 53 and 63: male and female.)

The former species is sparingly dispersed over the North Island, being very local in its distribution. Its notes are loud and varied; but the most noticeable one is a long-drawn organ-note of surpassing depth and richness. The other species is its South-Island representative, and may be readily distinguished by the orange colour of its wattles.

Fam. STURNIDÆ.

Genus HETERALOCHA. (Peculiar to New Zealand.)



HETERALOCHA ACUTIROSTRIS, Gould. "Huia" of the Maoris. (Case II. Nos. 33, 43, and 46.)

This species is confined to the wooded ranges in the most southern part of the North Island. It differs from all other birds in this respect, that the two sexes have differently formed bills. This bird subsists chiefly on a grub which infests decayed trees; and the different development of the mandibles in the two sexes enables them to perform separate offices. The male attacks the infested tree, chiselling out his prey by sheer strength, while the female probes with her long pliant bill the deeper cells, where the hardness of the surrounding wood resists the chisel of her mate.

Genus CREADION. (Peculiar to New Zealand.)



1. CREADION CARUNCULATUS, Gmel. Saddle-back. "Purourou." (Case II. Nos. 6 and 22.)

This bird derives its popular name from a peculiarity in the distribution of its two strongly contrasted colours, black and ferruginous, the latter of which covers the back, forms a sharply defined margin across the shoulders, and sweeps over the wings in a manner suggestive of saddle-flaps. A few years ago it was very plentiful in both Islands; but it has now entirely disappeared from the North Island, being met with only in some wooded islets in the Hauraki Gulf.

2. *CREADION CINEREUS*, Buller. Jack-bird. "Tieke."
(Case II. Nos. 17 and 23.)

Common in the wooded parts of the South Island. Of similar habits to the former species. It is a noisy bird, and hurries through the forest with loud cries of "tiaki-rere."

Fam. *TURNAGRIDÆ*.

Genus *TURNAGRA*. (Peculiar to New Zealand.)



1. *TURNAGRA HECTORI*, Buller. North-Island Thrush.
"Piopio." (Case IX. No. 10.)

Named in compliment to Sir James Hector, Director of the Geological Survey Department. Formerly tolerably common in the North Island, but now one of the rarest of New-Zealand birds. This is much to be regretted, as it is a fine songster.

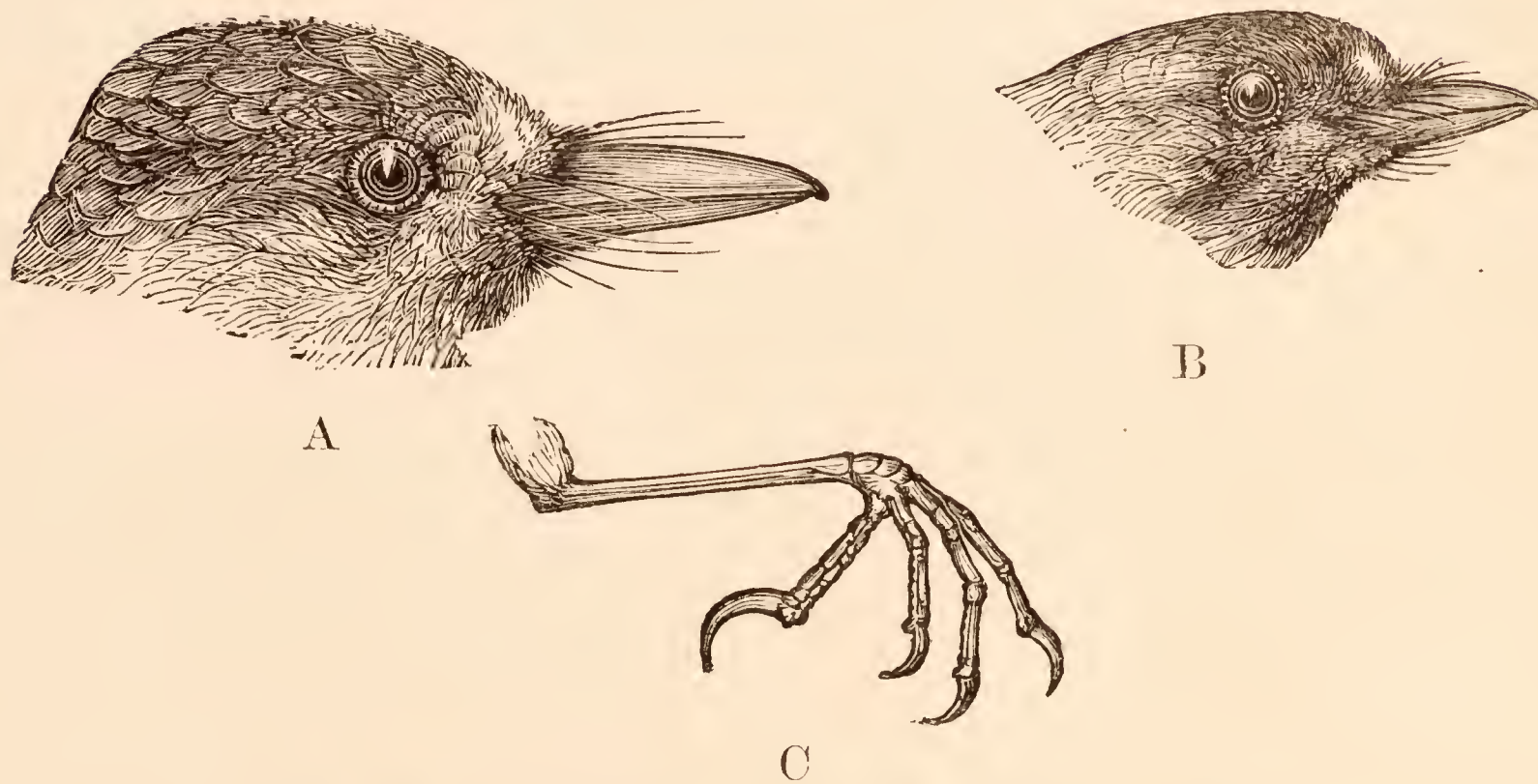
2. *TURNAGRA CRASSIROSTRIS*, Gmel. (Case II. Nos. 14, 15, and 28.)

This species is confined to the South Island. It frequents

the low woods, but is fast disappearing, owing to the ravages of wild cats and dogs.

Fam. SYLVIIDÆ.

Genus MIRO. (Peculiar to New Zealand.)



A. *Miro australis*. B, C. *Myiomoira toitoi*.

1. MIRO AUSTRALIS, Sparrm. North-Island Robin. "Tou-touwai" or "Pitoitoi." (Case IX. Nos. 5 and 6; Case X. No. 9.)

Formerly the commonest bird in the North Island; now well nigh extinct, being met with only on the small islands lying off the coast.

2. MIRO ALBIFRONS, Gmel. South-Island Robin. (Case II. No. 20.)

The South-Island representative of the former, and still plentiful in all suitable localities.

Genus MYIOMOIRA. (Peculiar to New Zealand.)

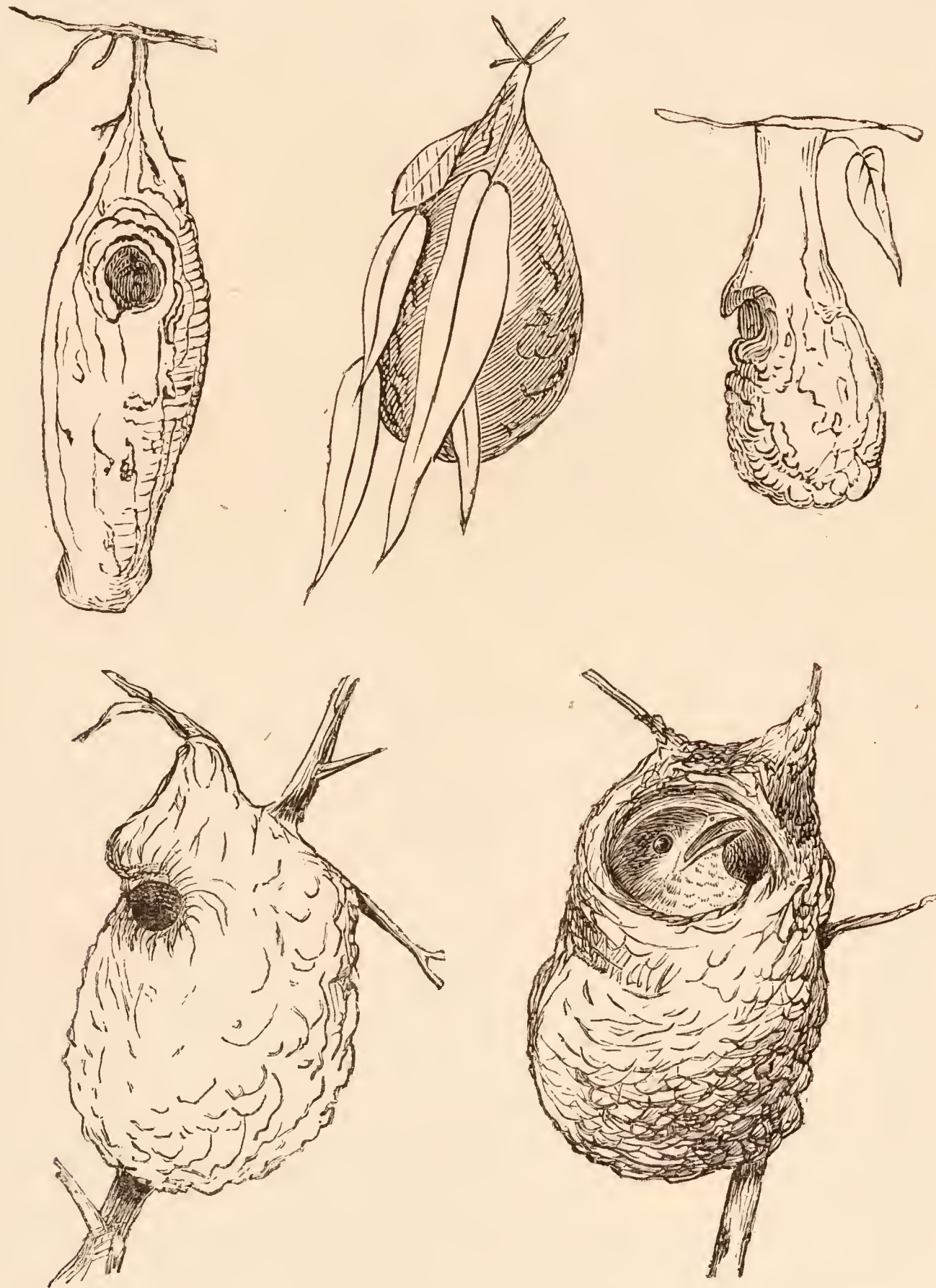
1. MYIOMOIRA TOITOI, Less. North-Island Tomtit. "Ngi-rungiru." (Case X. Nos. 4, 5, and 6.)

This elegant little bird has a pretty general distribution over the North Island, but is not met with south of Cook's Strait. It is a familiar species, seeking the habitations of man, and taking up its abode in his gardens and orchards.

2. *MYIOMOIRA MACROCEPHALA*, Gmel. South-Island Tomtit.
(Case II. Nos. 3, 12, and 13.)

This is the southern representative of the preceding species. It is not found in the North Island, but is to be met with at the Chathams and on the Auckland Islands. It is a very elaborate nest-builder.

Genus *GERYGONE*. (New Zealand, Australia, Norfolk Island, and New Guinea.)



GERYGONE FLAVIVENTRIS, Gray. Grey Warbler. "Ri-ro-riro." (Case II. Nos. 27 and 29.)

This little bird is chiefly remarkable as the foster-parent

of the two species of migratory Cuckoos in New Zealand (*Eudynamis taitensis* and *Chrysococcyx lucidus*, see Case II. Nos. 2 and 41). It builds an ingenious domed nest, and often with a porch or vestibule. There is much variety in this structure, as will be seen from the woodcuts on p. 19.

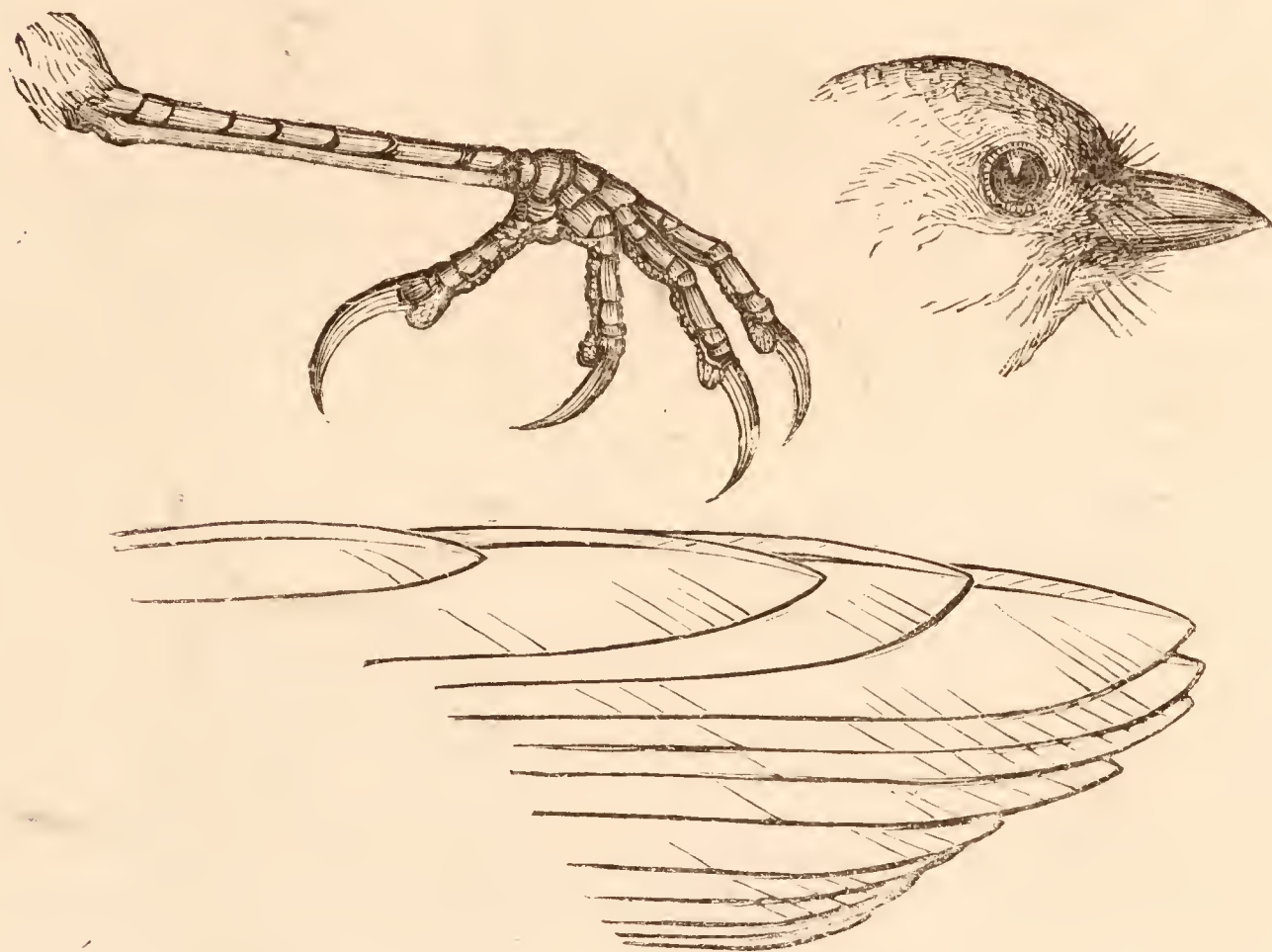
Fam. PARIDÆ.

Genus CERTHIPARUS. (Peculiar to New Zealand.)

CERTHIPARUS NOVÆ ZEALANDIÆ, Gmel. New-Zealand Creeper.
(Case II. Nos. 7 and 8, male; Case X. No. 3, young male.)

Fam. TIMELIIDÆ.

Genus CLITONYX. (Peculiar to New Zealand.)



1. CLITONYX ALBICAPILLA, Less. White-head. "Popokotea."
(Case IX. Nos. 3 and 4.)

Fifteen years ago this bird was plentiful all over the North Island; now it is nearly extinct on the mainland, and only met with occasionally on the islands.

2. CLITONYX OCHROCEPHALA, Gmel. Yellow-head. (Case II. Group, Nos. 26, 31, and 32.)

This bright-coloured bird is the southern representative

of *Clitonyx albicapilla*, and is still quite abundant in all the woods. It is known to the colonists as the "Native Canary."

Genus SPHENÆACUS. (Common to Australia and New Zealand.)

SPHENÆACUS PUNCTATUS, Gray. Fern-bird. "Matata" or "Koroatito." (Case II. No. 42: female.)

This recluse species frequents the dense fern of the open country, and the beds of raupo and other tall vegetation that cover the swamps and low-lying flats. In these localities it may constantly be heard uttering, at regular intervals, its melancholy call of two notes, "u-tick, u-tick," and responsively when there are two or more. It constructs a cup-shaped nest, which is found attached to reed-stems standing together, or placed in a grass-tussock. It lays three eggs, of a creamy white, prettily speckled over the entire surface with purplish brown.

Fam. MOTACILLIDÆ.

Genus ANTHUS. (Found all over the world.)

ANTHUS NOVÆ ZEALANDIÆi, Gray. New Zealand Pipit. "Pi-hoihoi." (Case X. Nos. 22 and 23: male and female.)

Common throughout the country, frequenting the open land, and sometimes resorting to the dry sands along the seashore. Forms a nest of dry grass and other fibrous substances loosely put together, which is always placed on the ground, generally in a horse's footprint, or in some natural depression, under shelter of a tussock or clump of rushes. The eggs are usually four in number, and are marked all over with spots or freckles of dark grey on a paler or ashy ground.

Fam. CAMPEPHAGIDÆ.

Genus GRAUCALUS. (Peculiar to Australia.)

GRAUCALUS MELANOPS, Vig. & Horsf. (Case II. No. 66.)

An occasional visitant from Australia. Only three instances of its occurrence are recorded.

Fam. MUSCICAPIDÆ.

Genus RHIPIDURA. (New Zealand, Australia, Tasmania, Norfolk Island, New Guinea, and many of the Indo-Malayan Islands.)

RHIPIDURA FLABELLIFERA, Gmelin. Pied Fantail. "Pi-wakawaka." (Case X. Nos. 35, 36, and 37: male, female, and young.)

One of the commonest birds, and a characteristic feature of the New-Zealand woods, where it may always be seen flying about with broadly expanded tail and performing all manner of fantastic evolutions in its diligent pursuit of gnats and flies. It builds a beautiful cup-shaped nest, formed of green moss, lined with dry bents, and bound round on the outside with spiders' webs.

Fam. HIRUNDINIDÆ.

Genus PETROCHELIDON. (Australia and Indian Archipelago.)

PETROCHELIDON NIGRICANS, Vieillot. Australian Tree-Swallow. (Case II. No. 16.)

An occasional straggler from Australia. Several small flights have been recorded in the South Island.

Fam. MELIPHAGIDÆ.

Genus ZOSTEROPS. (Extends over the entire Southern Hemisphere.)

ZOSTEROPS CÆRULESCENS, Latham. Silver-eye or Blight-bird. "Tau-hou" or "Kanohi-mowhiti." (Case X. Nos. 1 and 2, male and female; Case IX. contains nest and eggs.)

The history of this little bird in New Zealand is a remarkable one. It is identical with the species inhabiting Australia, but whether it came over to New Zealand from

that continent, or whether it has always existed in the extreme south of New Zealand, is only a matter of conjecture. It appeared on the south side of Cook's Strait, for the first time within the memory of the oldest native inhabitants, in the winter of 1856. They remained for about three months and then departed as suddenly as they had come. During the two years that followed this bird was never heard of again in any part of the North Island; but in the winter of 1858 it again crossed the strait in greater numbers than before. During the four succeeding years it regularly wintered in the North Island, recrossing the strait on the approach of spring. Since the year 1862 it has been a permanent resident. It builds a shallow nest laced together with long horse-hair, and generally suspended by side-fastenings to hanging branchlets or climbing vines; and it lays three (sometimes four) eggs, of a lovely pale blue colour.

Genus ANTHORNIS. (Peculiar to New Zealand.)



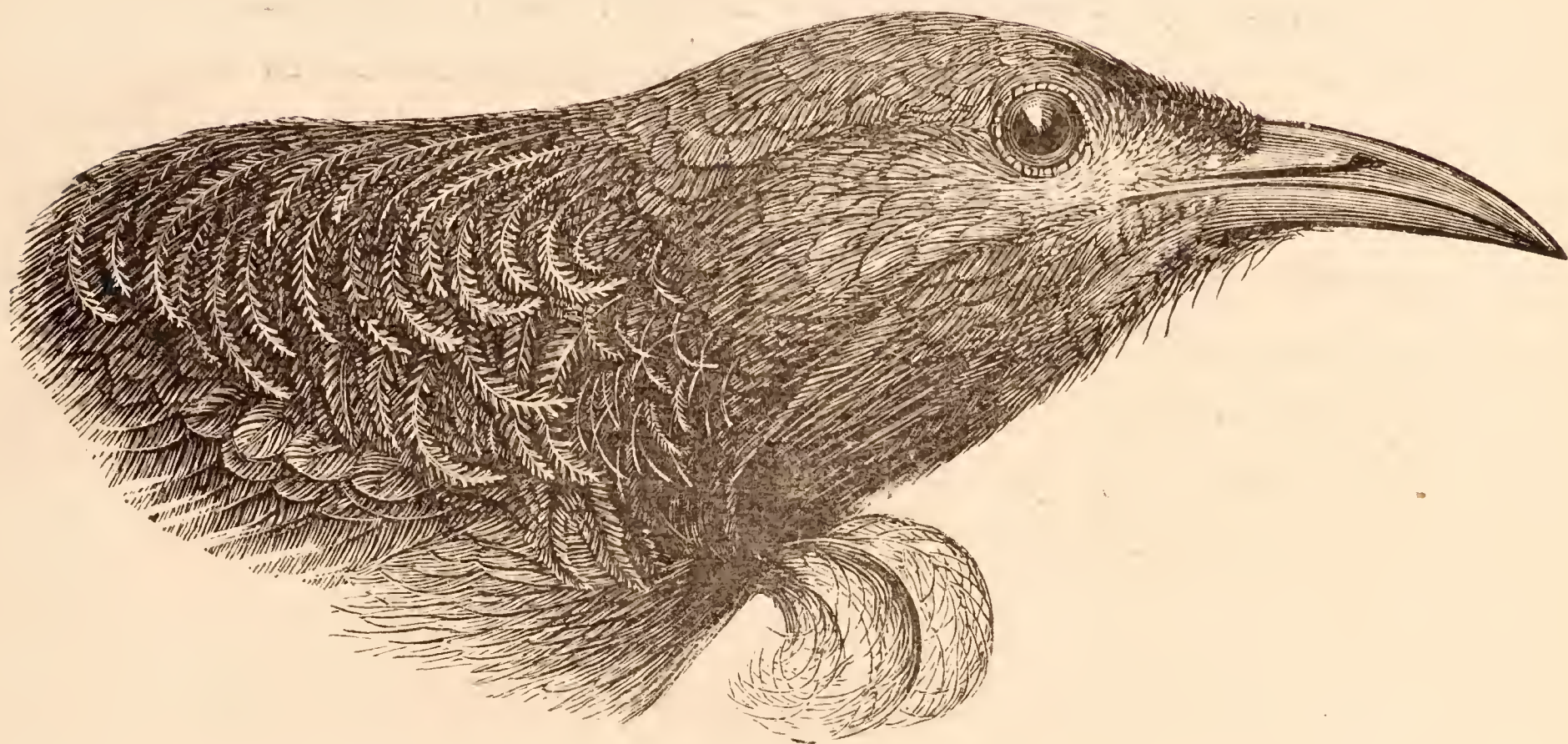
1. ANTHORNIS MELANURA, Sparrm. Bell-bird. "Korimako."
(Case II. Nos. 1 and 4, male; Case IX. No. 9, female;
Case X. No. 16, female.)

This is the bird whose praises were sung by the illustrious navigator Cook a hundred years ago. It was formerly the commonest bird in New Zealand, but is now almost extinct on the North Island, being met with only on the wooded islets in the large inland lakes or off the coast. It is still plentiful in the South Island.

2. ANTHORNIS MELANOCEPHALA, Gray. (Case IX. Nos. 1 and 2: male and female.)

Confined to the Chatham Islands. As with the former species, both sexes sing.

Genus PROSTHEMADERA. (Peculiar to New Zealand.)



PROSTHEMADERA NOVÆ ZEALANDIÆ, Gmelin. Parson-bird.
“Tui” or “Koko.” (Case II. Nos. 9, 10, 25, and 50: adult male and female, young male, and variety.)

This is one of the commonest birds of the country, but deserves special notice because of its singular beauty. The hind neck is ornamented with a collar of soft filamentous plumes, curving outwards, and with a white line down the centre; and on the throat there are two peculiar tufts of snow-white feathers having a fanciful resemblance to the clerical bands, whence the bird derives its popular name.

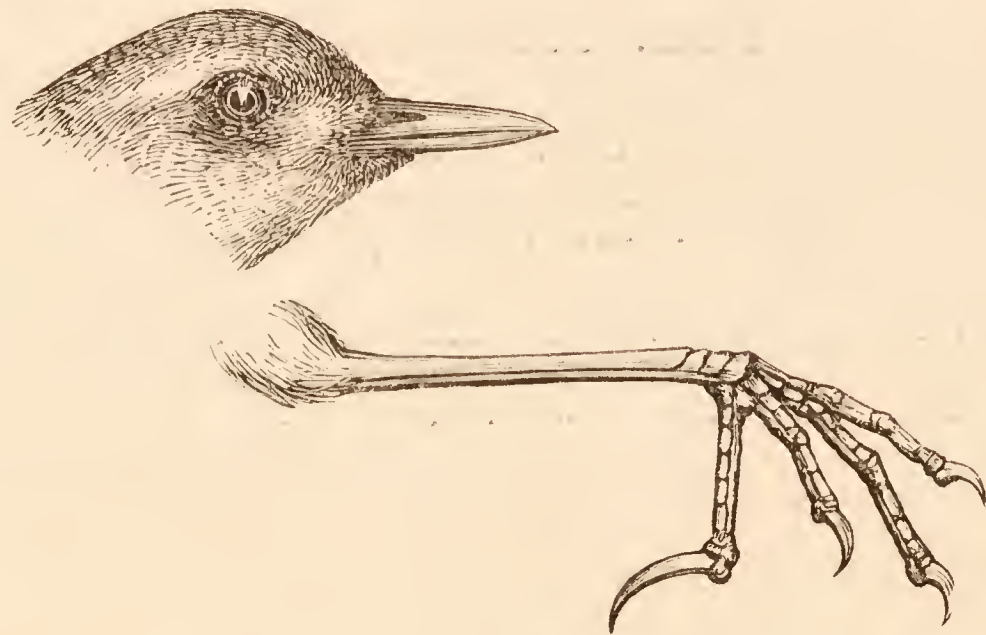
Genus ACANTHOCHÆRA. (Peculiar to Australia.)

ACANTHOCHÆRA CARUNCULATA, Latham. Wattled Honey-eater. (Case II. No. 67.)

An occasional visitant from Australia.

Fam. XENICIDÆ.

Genus XENICUS. (Peculiar to New Zealand.)



XENICUS LONGIPES, Gmelin. Bush-Wren. "Matuhituhi."
 (Case IX. Nos. 17, 18, and 19: adult male and female,
 and young.)

This bird is confined to the *Fagus*-forests which clothe the sides of the sub-alpine ranges in the South Island. It is extremely rare in the North Island.

Genus ACANTHIDOSITTA. (Peculiar to New Zealand.)



ACANTHIDOSITTA CHLORIS, Sparrm. Rifleman. "Titipounamu."
 (Case X. Nos. 7 and 8: adult and young.)

This is the smallest of the New-Zealand birds. It is strictly arborcal in its habits, and is to be met with generally on the sides and summits of the wooded ranges, seldom or never in the low gullies. It forms a large pear-shaped nest, with the entrance on the side, usually placing it within the shelter of some cavity. The eggs are from three to five in number, nearly spherical in form, and perfectly white.

ORDER PICARIÆ.

Fam. CORACIIDÆ.

Genus EURYSTOMUS. (Australia, New Guinea,
and Indian Archipelago.)

EURYSTOMUS PACIFICUS, Lath. Australian Roller. (Case II.
Nos. 34 and 35 : male and female.)

An occasional visitant to the west coast of both Islands.

Fam. ALCEDINIDÆ.

Genus HALCYON. (Both hemispheres.)

HALCYON VAGANS, Lesson. New-Zealand Kingfisher. "Ko-
tare." (Case II. Nos. 60 and 61 : adult and young.)

This bird is generally dispersed throughout the country,
being met with on the sea-shore, as well as in the open
country, in forest-clearings, and on the banks of freshwater
streams. It nests in deep holes, which it excavates in dead
trees or in clay banks, and the eggs, which are generally five,
sometimes six, in number, are of the purest white, with a
smooth or polished surface.

Fam. CUCULIDÆ.

Genus EUDYNAMIS. (Australia, New Guinea and
Polynesia, and India.)

EUDYNAMIS TAITENSIS, Sparrm. The Long-tailed Cuckoo.
"Koheperoa." (Case II. Nos. 2, 5, 18, and 19 : group
of adult and young birds.)

A migratory species. Arrives in the early part of October
and disappears before the end of February.

Genus CHRYSOCOCCYX. (Southern Hemisphere.)

CHRYSOCOCCYX LUCIDUS, Gmelin. Shining Cuckoo. "Wa-

rauroa." (Case II. No. 41, female; Case IX. No. 12, young bird.)

This also is a migratory species, arriving in New Zealand about the end of September, spending the warm months and breeding there, and departing about the first week in January. Both this species and the preceding one are parasitic in their nidification; and both of them entrust the rearing of their young to the Grey Warbler, one of the smallest of the New-Zealand birds (see Nos. 27 and 29 in Case II.).

ORDER PSITTACI.

Fam. PLATYCERCIDÆ.

Genus PLATYCERCUS. (Australia, New Zealand, New Guinea, and Polynesia.)



1. PLATYCERCUS NOVÆ ZEALANDÆ, Sparrm. Red-fronted Parakeet. "Kakariki." (Case II. Nos. 47, 48, and 49, male and female; also yellow-spotted variety, Case X. No. 12.)
2. PLATYCERCUS AURICEPS, Kuhl. Yellow-fronted Parakeet. (Case II. Nos. 54 and 56, male and female, and Case X. No. 10.)
3. PLATYCERCUS ALPINUS, Buller. Orange-fronted Parakeet. (Case II. No. 55, male.)

4. *PLATYCERCUS ROWLEYI*, Buller. Rowley's Parrakeet.
(Case X. No. 11.)

These four species of Parrakeet, which are distinguished by the uniform green of their body-plumage and variously coloured foreheads, are distributed pretty evenly over both Islands. They inhabit, as a rule, the low woods and the outskirts of the forests; but *Platycercus alpinus* is more generally met with in the alpine heights of the South Island.

Fam. NESTORIDÆ.

Genus NESTOR. (Peculiar to New Zealand, Norfolk Island, and Phillip Island.)



1. *NESTOR MERIDIONALIS*, Gmelin. "Kaka" of the Maoris.
(Case I. Nos. 2, 3, and 5: male, female, and young.)

This is one of the characteristic New-Zealand forms, and may be met with in all parts of the country. It is arboreal in its habits and seminocturnal. With the earliest streaks of dawn, and while the underwoods are still wrapped in darkness, its wild cry breaks upon the ear with a strange effect. Although habitually recluse during the day, it is not always so. During gloomy weather it is often very active; and sometimes even in the bright sunshine a score of them may

be seen together, flying and circling about high above the tree-tops, uttering their loud screams, and apparently bent on convivial amusement.

It is a favourite pet with the Maoris, and every native village has its tame Kaka, which is trained as a decoy-bird.

It nests in hollow trees, laying four eggs, somewhat spherical in form, and pure white with a glossy surface.

Very beautiful varieties are sometimes met with, some having the entire plumage yellow with red facings, or orange and scarlet. The specimen in Case IX. (No. 14) represents Von Haast's *Nestor montanus*, from the Alpine district of the South Island.

2. *NESTOR NOTABILIS*, Gould. Mountain Parrot. "Kea."
(Case II. Nos. 21, 30, 36, and 52: male and female.)

This is essentially a mountain species, inhabiting the rugged slopes of the Southern Alps, and descending to the plains only during severe winters, when its customary haunts are covered with snow and its means of subsistence have consequently failed.

The most interesting feature in the history of this bird is the extraordinary manner in which, under the changed conditions of the country, it has developed a carnivorous habit. It attacks the living sheep, and always in one part of the body, tearing out and devouring the kidney-fat, and inflicting injuries that generally prove fatal. So destructive, indeed, has this Parrot become on the sheep-runs that the Government has been induced to offer a bonus of so much per head for killing them.

Fam. STRINGOPIDÆ.

Genus *STRINGOPS*. (Peculiar to New Zealand.)

1. *STRINGOPS HABROPTILUS*, Gray. "Kakapo" of the Maoris;

“Ground-Parrot” of the Colonists. (Case I. Nos. 1, 4, 6, 8, and 10: male, female, very old bird, and very young one.)



This is one of the very remarkable forms which distinguish the avifauna of New Zealand. In all the essential characteristics of structure it is a true Parrot; but it bears a superficial resemblance to an Owl, as, for example, in the possession of a facial disk, in which respect it differs from all other known Parrots. The sternum, which in all other birds of its class has a prominent keel, is so completely aberrant that it presents almost a flat surface; and the wings, although to all appearance well developed, are entirely useless for purposes of flight. It is nocturnal in its habits, and lives exclusively on vegetable food.

Formerly this species existed in considerable numbers in both the North and South Islands; but it is now only to be found in the mountainous parts of the Canterbury and Otago provincial districts.

During the day it remains concealed in holes, under the roots of trees or under rocks, or sometimes perched on the boughs of low-growing trees with dense foliage. About sunset it becomes animated, and issues forth from its retreat to seek its food. When eating grass it grazes rather than

feeds, nibbling its food after the manner of a rabbit or wombat.

Sir George Grey has published some interesting notes on its habits.

No. 6 in this collection is an abnormally small example, and is specially mentioned at page 177 (2nd ed.) of 'The Birds of New Zealand.'

ORDER STRIGES.

Fam. STRIGIDÆ.

Genus *SPILOGLAUX*. (Peculiar to New Zealand.)

SPILOGLAUX NOVÆ ZEALANDIÆ, Gmelin. New-Zealand Owl.

"Ruru." (Case IX. Nos. 15, 16, 23, and 24: adult male, female, and young birds in two stages of growth.)

Every colonist is familiar with this little Owl under the name of "Morepork," so called on account of its peculiar cry.

It subsists on rats, mice, and small birds, and when these fail it does not despise the large nocturnal moths and beetles. It nests in hollow trees, and lays two white eggs, almost spherical in form.

Genus *SCELOGLAUX*. (Peculiar to New Zealand.)

SCELOGLAUX ALBIFACIES, Gray. Laughing Owl. "Whc-kau." (Case IX. No. 22.)

This is one of the rarest species now existing in New Zealand. Half a century ago it was on the verge of extinction, and some years have elapsed since the capture of the last recorded example, although it is still occasionally heard of in the mountainous districts of the South Island. Very few European collections contain specimens of this interesting bird.

ORDER ACCIPITRES.

Fam. FALCONIDÆ.

Genus CIRCUS. (Common to all parts of the world.)

CIRCUS GOULDI, Bonap. New-Zealand Harrier. "Kahu."
 (Case II. Nos. 58, 59, and 62 : male, female, and young ;
 No. 62, devouring a Tui.)

This species has a wide geographical distribution, being met with also in Australia, Tasmania, and as far eastward as the Fiji Islands. It hunts on the wing, performing wide circles at a low elevation from the ground, and sailing over meadows, fern-land, or marshes in quest of lizards, mice, and other small game. It nests on the ground or in a tussock, and lays from two to four perfectly white eggs, ovoido-conical in form.

Genus HARPA. (Peculiar to New Zealand.)



1. HARPA NOVÆ ZEALANDIÆ, Gmelin. Quail-Hawk. "Karearea." (Case X. Nos. 19 and 20, adult and young ; Case IX. No. 11, very finely marked adult female.)

2. HARPA FEROX, Peale. Sparrow-Hawk or Bush-Hawk. (Case II. Nos. 45 and 57, the latter devouring a Kingfisher.)

These Tree-Falcons somewhat resemble an Australian genus, but are sufficiently differentiated to form a distinct genus. The Quail-Hawk is very seldom met with in the North Island ; and both species are far less numerous than formerly.

ORDER GALLINÆ.

Fam. TETRAONIDÆ.

Genus COTURNIX. (Europe, Asia, Africa,
and Australia.)

COTURNIX NOVÆ ZEALANDIÆ, Quoy & Gaim. New-Zealand
Quail. "Koreke."

This species, which is almost, if not quite, extinct in New Zealand, is represented in this Collection by four specimens of the closely-allied *Coturnix pectoralis* from Australia (Case X. Nos. 29, 30, 31, and 32: adult male, female, and young).

ORDER COLUMBÆ.

Fam. COLUMBIDÆ.

Genus CARPOPHAGA. (Polynesia, Indian Archipelago,
and China.)

CARPOPHAGA NOVÆ ZEALANDIÆ. New-Zealand Pigeon. "Kereru." (Case II. Nos. 11 and 24; Case X. No. 21: male and female.)

This fine Wood-Pigeon is very abundant in all parts of New Zealand, as well as in the Chatham Islands. It is strictly arboreal in its habits, and appears to prefer the densest foliage. It subsists on various kinds of wild fruit and berries, and at certain seasons of the year becomes very fat, and is then esteemed a great delicacy. Both as to size and brilliancy of plumage it is the most conspicuous member of the restricted group to which it belongs. The metallic lustre of the neck and breast differs in individuals from bronzy green to coppery purple, with brighter reflections; and this is well represented by the three specimens in the Collection.



NEW-ZEALAND WOOD-PIGEON.

ORDER LIMICOLÆ.

Fam. CHARADRIIDÆ.

Genus CHARADRIUS. (Cosmopolite.)

1. CHARADRIUS OBSCURUS, Gmelin. Red-breasted Plover.
 "Tuturiwhata." (Case IX. No. 32, full nuptial plumage;
 Case X. Nos. 15 and 17, summer and winter plumage.)

This fine species, although nowhere very plentiful, is dispersed along the shores of both Islands, frequenting the open beaches and the sand-flats at the mouths of all the tidal rivers. It resorts, in small flocks, to the tops of mountains, being met with sometimes at an elevation of fully 8000 feet.

2. CHARADRIUS BICINCTUS, Jardine. Banded Dottrel. "Pohowera." (Case VI. Nos. 12, 21, and 23: male and female, different ages; Case IX. No. 8.)

This pretty Dottrel is very common on the shores, and is sometimes met with on the meadows far inland. It associates in flocks, and is very lively and active in its habits. It occurs also in Australia and Tasmania, and has been recorded from Lord Howe's Island.



NESTLING OF BANDED DOTTEL.

3. *CHARADRIUS RUFICAPILLUS*, Temm. Red-capped Dottrel.
(Case X. No. 34.)

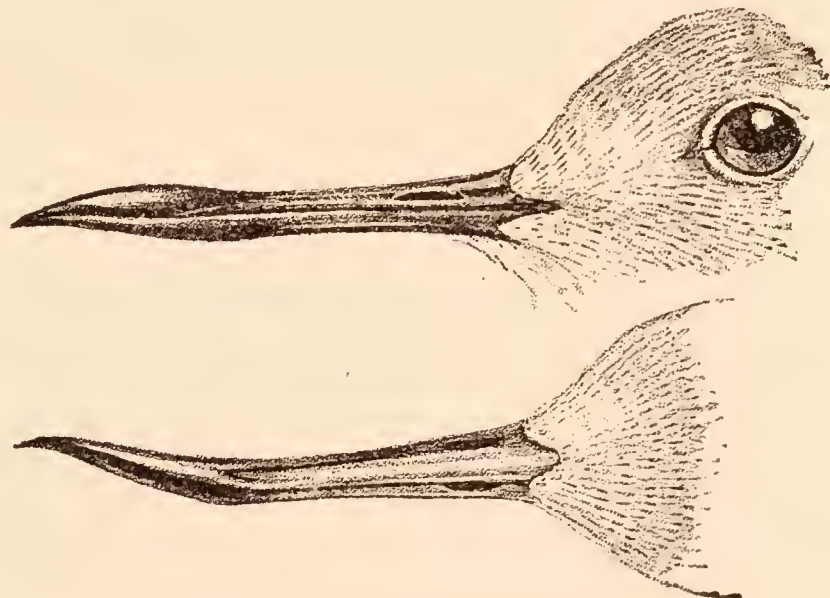
An occasional visitant from Australia, where this species is a common inhabitant of the sea-shore.

4. *CHARADRIUS FULVUS*, Gmelin. The Eastern Golden Plover.
(Case X. No. 13.)

This species is only a rare visitant to New Zealand. Each of the Provincial Museums contains one or more specimens. The present example was shot on the east coast of the North Island.

Genus *ANARHYNCHUS*. (Confined to New Zealand.)

- ANARHYNCHUS FRONTALIS*, Quoy et Gaim. Wry-billed Plover. "Ngutupare." (Case VI. No. 14; Case IX. No. 21 : male and female.)



This Plover is distinguishable from all others by having a crooked or asymmetrical bill, the apical portion being always turned to the right. This peculiarity, which naturalists at one time considered a deformity, or the result of accident, is congenital, being present in the newly hatched chick.

Genus *STREPSILAS*. (Cosmopolite.)

- STREPSILAS INTERPRES*, Linn. Turnstone. (Case IX. No. 7.)

This bird occurs in New Zealand only as a straggler from high northern latitudes. The specimen in this Collection

was obtained at Portland Island by Mr. C. H. Robson, of the Colonial Service.

Genus HÆMATOPUS. (Cosmopolite.)

1. HÆMATOPUS LONGIROSTRIS, Vieill. Pied Oyster-catcher.
"Torea." (Case III. No. 10.)

This Oyster-catcher is very similar in appearance to the European species, and its habits are the same.

2. HÆMATOPUS UNICOLOR, Wagl. Black Oyster-catcher.
"Torea." (Case III. Nos. 9 and 11: male and female.)

This dark species, which occurs also in Australia, associates freely with the Pied one, and the two species occasionally interbreed.

Fam. SCOLOPACIDÆ.

Genus RECURVIROSTRA. (Cosmopolite.)

- RECURVIROSTRA NOVÆ HOLLANDIÆ, Gould. Red-necked Avocet. (Case X. No. 28: female.)

This species is extremely rare in New Zealand, being evidently a straggler from the Australian coast.

The specimen in this Collection was obtained many years ago in the Provincial district of Canterbury by the late Sir Julius von Haast.

Genus HIMANTOPUS. (Cosmopolite.)

1. HIMANTOPUS LEUCOCEPHALUS, Gould. White-headed Stilt.
"Tutumata." (Case III. Nos. 4, 5, and 6: group of old and young.)

Thinly dispersed over both Islands, frequenting fresh-water lagoons and the sand-banks near the mouths of tidal rivers. It is partially migratory, and at certain seasons assembles in flocks of considerable magnitude.



CHICK OF WHITE-HEADED STILT (natural size).

2. *HIMANTOPUS NOVÆ ZEALANDIÆ*, Gould. Black Stilt-Plover. "Kaki." (Case IX. No. 31.)

This form, which may be readily distinguished from the preceding one by its darker plumage, is strictly confined to New Zealand.

Genus *TRINGA*. (All the more genial parts of the world.)

TRINGA ACUMINATA, Horsf. Sandpiper.

An occasional visitant to the South Island from the Australian shore.

Genus LIMOSA. (Cosmopolite.)

LIMOSA NOVÆ ZEALANDIÆ, Gray. The Southern Godwit.

“Kuaka.” (Case III. Nos. 1, 2, and 3: group.)

There is probably no bird whose history is more romantic. It is the eastern representative of the European Godwit, to which it bears a close resemblance; and, like that species, it has a very extensive geographical range. It spends a portion of the year in Siberia, and visits in the course of its annual migration the islands of the Indian Archipelago, Polynesia, Australia, and New Zealand. It arrives in the North Island in November, then spreads rapidly southward, and takes its departure on its distant pilgrimage towards the end of March.

Genus NUMENIUS. (Cosmopolite.)

NUMENIUS CYANOPUS, Vieill. Australian Curlew. (Case III. No. 18.)

An occasional visitant to New Zealand.

ORDER GAVIÆ.

Fam. LARIDÆ.

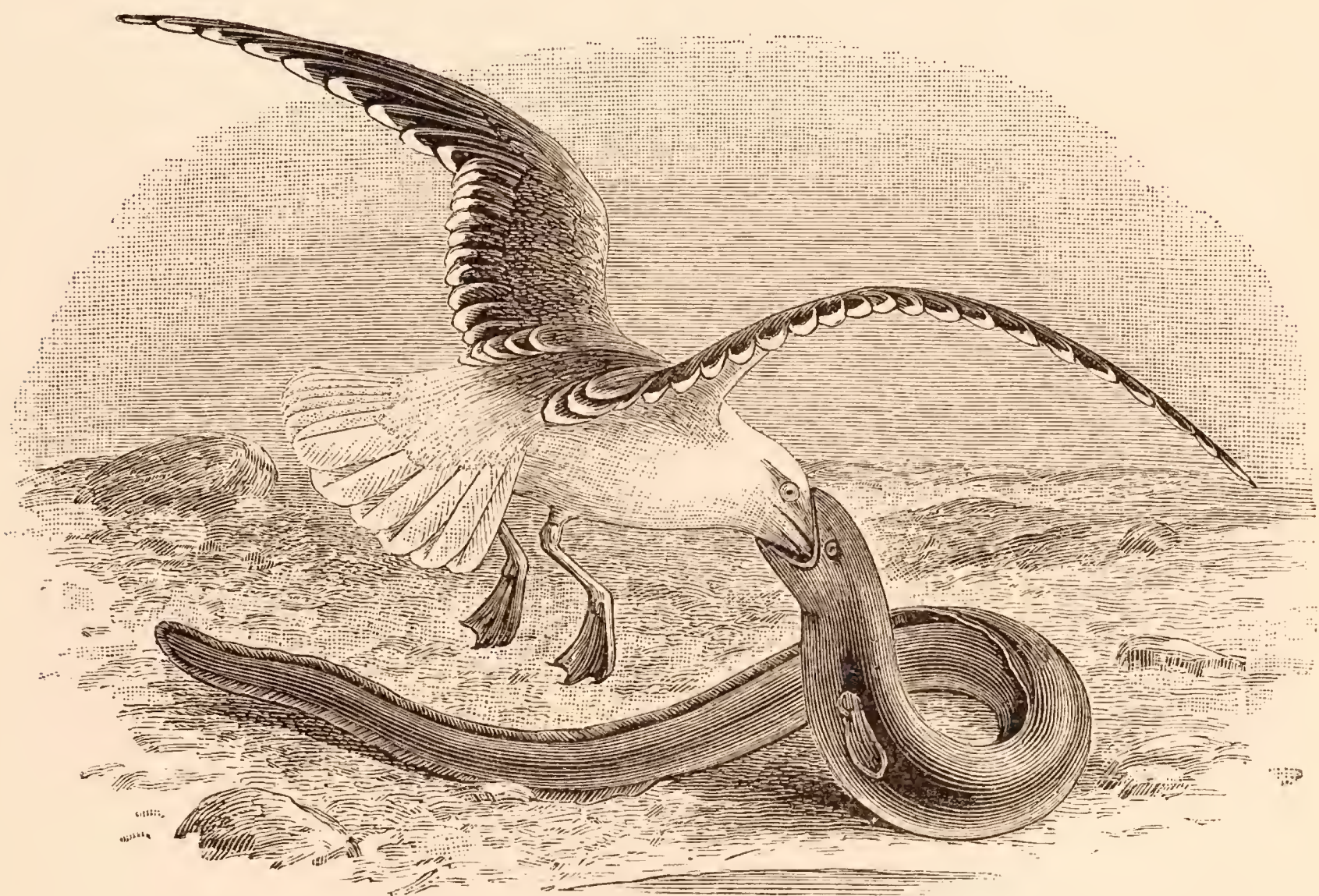
Genus LARUS. (Cosmopolite.)

I. LARUS DOMINICANUS, Licht. Black-backed Gull. “Karroro.” (Case VI. Nos. 16, 11, and 8: adult, young, and transitional states, respectively.)

The range of this handsome Gull extends over the whole Southern Hemisphere. It is extremely abundant on all the New-Zealand coasts, preferring, however, the smooth sea-beaches and the sandy spits at the mouths of the large tidal rivers.

2. *LARUS SCOPULINUS*, Forst. Mackerel Gull. "Tara-punga." (Case VI. No. 7.)

Frequents every part of the coast, and is equally plentiful at all seasons of the year, generally associating in large flocks.



"THE BITER BIT" (an incident of Bird-life in New Zealand).

Fam. STERNIDÆ.

Genus STERNA. (Cosmopolite.)

1. *STERNA CASPIA*, Pall. Common Tern. "Tara-nui."
(Case VI. Nos. 1, 3, and 5: male and female, summer and winter plumage.)

This species is spread over a great part of the world, for it inhabits North America, South Africa, Southern Europe, India, the Malay Archipelago, and Australia. It is common on every part of the coast and on all the adjacent islands.

2. *STERNA FRONTALIS*, Gray. Sea-Swallow. "Tara."
(Case VI. Nos. 2, 6, 10, 15, and 20: male and female, in different states of plumage.)

The term "Sea-Swallow," as applied to this Tern, is a

very appropriate one, for, on watching the evolutions of a flock of these birds, one is forcibly reminded of a flight of Swallows coursing in the air. They breed in large colonies, as many as three hundred or more being sometimes associated together. The eggs are ovoido-conical in form, and present great beauty and diversity in their colouring.

3. *STERNA ANTARCTICA*, Forst. Black-fronted Tern. "Tara."
(Case VI. No. 19.)

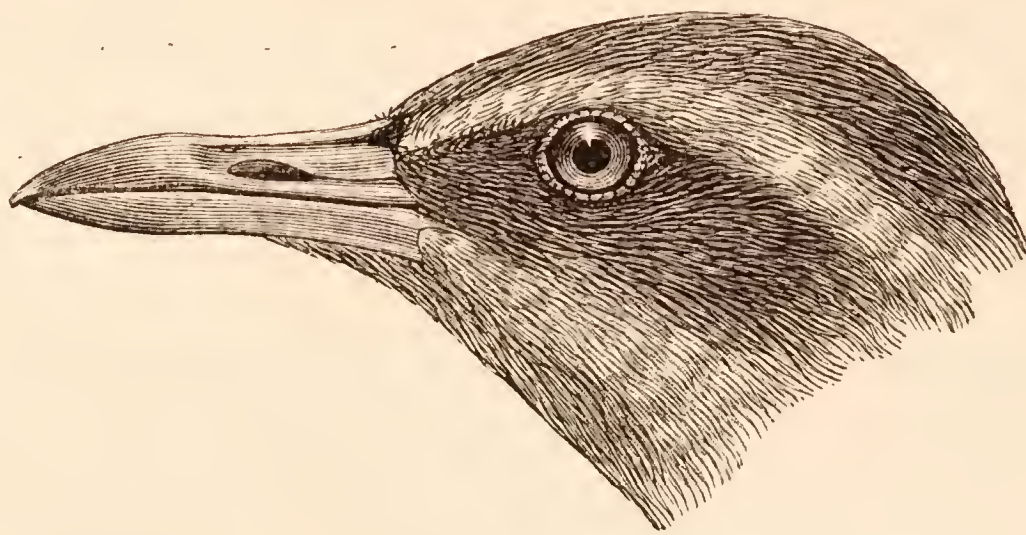
Frequents the river-courses, and sometimes spreads far over the plains of the South Island. It may be observed in large flights in the meadows, following the farmer's plough, and picking up grubs and insects from the newly-turned earth.

ORDER GRALLÆ.

Fam. RALLIDÆ.

Genus RALLUS. (Cosmopolite.)

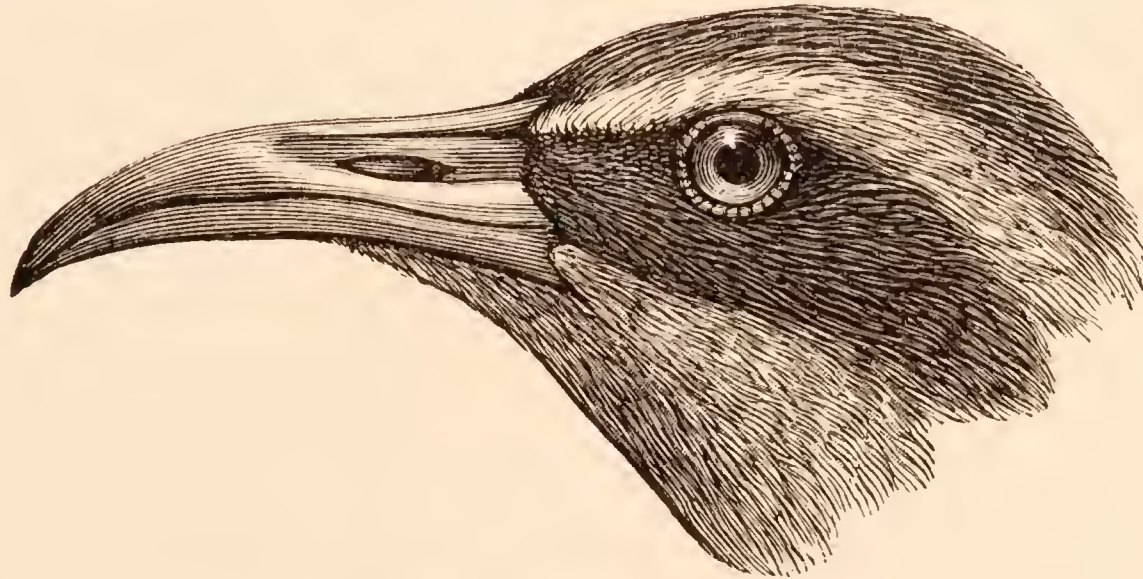
RALLUS PHILIPPENSIS, Linn. Striped Rail. "Moho-pereru."
(Case IV. Nos. 8, 9, and 12: of different ages and of both sexes.)



This beautiful Rail, of which the Collection contains a good series, is sparingly distributed over both Islands in all suitable localities. Its range extends to Australia and Tasmania; also to the Celebes, Philippine Islands, and Polynesia. It frequents the grassy plains and sedges, runs with agility, and seldom takes wing. It nests in the most secluded places,

laying generally four rather glossy eggs, of proportional size, ovoid, and marked over the entire surface with rounded spots of reddish brown. The chick, which is able to run immediately after exclusion, is covered with thick jet-black down.

An allied form with a more curved bill (*Cabalus dieffenbachii*) formerly inhabited the Chatham Islands; but it is now supposed to be extinct. The only known specimen is in the British Museum.



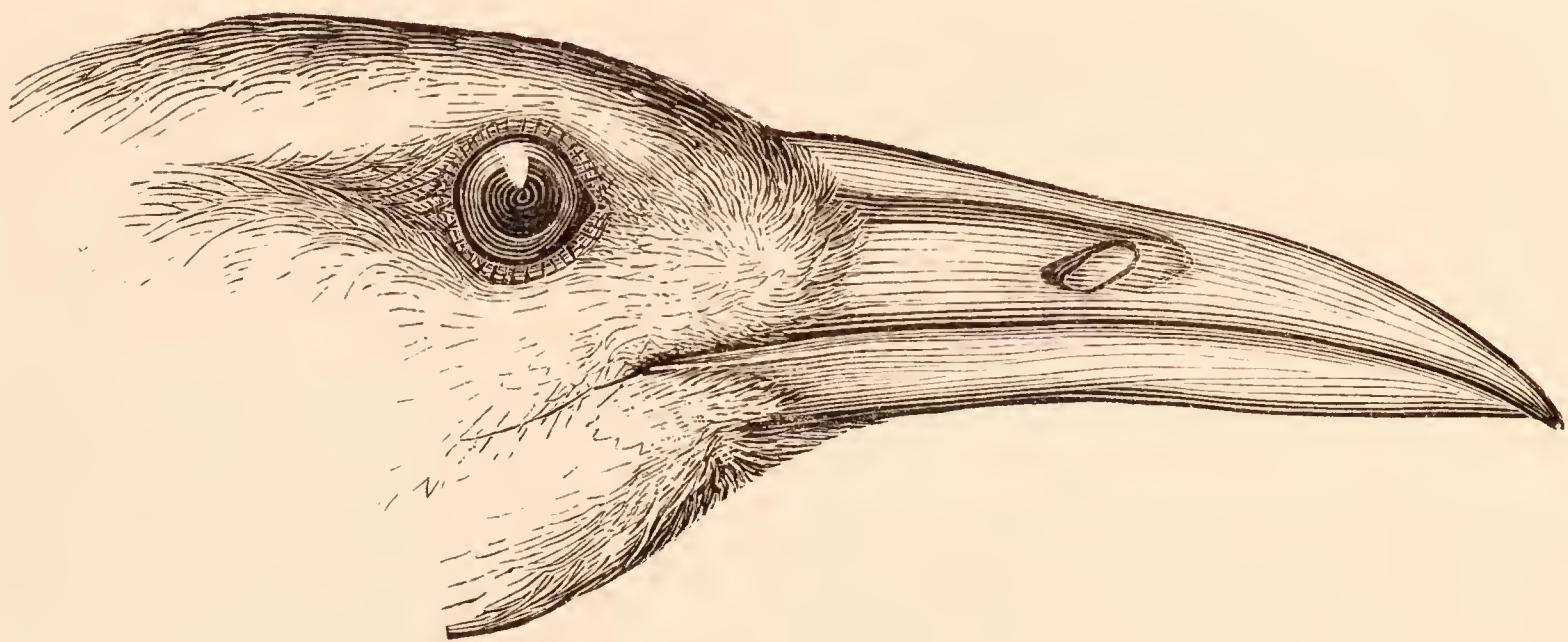
Cabalus dieffenbachii.

Genus ORTYGOMETRA. (Cosmopolite.)

ORTYGOMETRA AFFINIS, Gray. (Case IX. No. 20.)

Occurs in both Islands, but is everywhere a rare species and difficult to obtain.

Genus OCYDROMUS. (Peculiar to New Zealand.)



1. OCYDROMUS EARLI, Gray. North-Island Woodhen.
"Weka." (Case IV. Nos. 4, 10, and 13: male and female.)

This peculiar form of brevipennate Rail (of which there are several species) is not found in any other part of the world. It is furnished with ample wings, but they are so feebly developed as to render the bird quite incapable of flight. The quill-feathers have strong webs but are soft and flexible; while the long inner secondaries take the form of a loose overlapping mantle. The legs, on the other hand, are very strongly developed; and the bird is in some measure compensated for its disability of wing by being able to run almost with the swiftness of a rat. It is semi-nocturnal in its habits, and during the day usually remains concealed in the thick fern or scrub which covers its haunts, or takes refuge in a broken log or other natural cavity.

The New-Zealand Woodhen and the Dodo of the Mauritius are the only two known forms (excepting, of course, the *Struthiones*) in which the angle formed by the axes of the coracoid and scapula is greater than a right angle—a feature of such importance that Professor Huxley has adopted it as one of the distinguishing characters in his scheme for the classification of birds, under the two divisions of *Carinatae* and *Ratitae*.

2. *OCYDROMUS AUSTRALIS*, Sparrm. South-Island Woodhen.
 “Weka.” (Case IV. Nos. 5, 7, and 11: adult male, female, and chick.)

This is the Common Woodhen of the South Island. It abounds in considerable numbers on all the sheep-runs in the lower country; and its thievish propensities render it sometimes very troublesome.

3. *OCYDROMUS BRACHYPTERUS*, Lafresnaye. Buff-marked Woodhen. “Weka.” (Case IX. No. 35, with nest containing eggs.)

This species is also confined to the South Island, being met with generally in the alpine heights, and sometimes on the snow-line.

4. *OCYDROMUS FUSCUS*, Dubus. Black Woodhen. (Case IV. Nos. 1, 2, 3, and 6: both sexes, and different states of plumage.)

This species is confined to the south-west region of the South Island, often frequenting the sea-shore and feeding among the kelp.

5. *OCYDROMUS ASSIMILIS*, Buller. New species of Woodhen. (Case X. No. 25.)

This species, which inhabits the southernmost extremity of the South Island, comes very near to *Ocydromus earli*, which is strictly confined to the North Island. It may, however, be readily distinguished by the bright colour of its legs and feet.

Genus PORPHYRIO. (Warm and temperate countries.)

PORPHYRIO MELANONOTUS, Temm. Swamp-hen. "Pukeko."
(Case IV. Nos. 14, 15, and 16: male and female.)

This fine Swamp-hen is widely distributed over Tasmania, the greater part of the continent of Australia, New Zealand, the Chatham Islands, and New Caledonia. The Maoris have a tradition that tame ones were brought by their ancestors in their migration from the historic "Hawaiki." It is very abundant in all localities suited to its habits of life, such as marshes, flax-swamps, and lagoons covered with beds of raupo and rushes. In some parts of the country they associate in large flocks, and prove very destructive to the potato-grounds.

ORDER HERODIONES.

Fam. ARDEIDÆ.

Genus ARDEA. (Most parts of the World.)

1. *ARDEA EGRETTA*, Gmelin. Egret. "White Crane" of the

Colonists; "Kotuku" of the Maoris. (Case X. No. 14.)

This beautiful Heron occurs so sparingly in most parts of New Zealand that "rare as a Kotuku" has passed into a proverb among the Maoris; while in the North Island it is said to occur only once in a lifetime ("He Kotuku rerenga tahi").

Sir William Fox has described a nesting-place of this species which he visited on the west coast; but unfortunately the persecuted birds have since quitted it, and, so far as is at present known, no heronry of a similar kind exists in the colony.

2. *ARDEA SACRA*, Gmelin. Blue Heron. "Blue Crane" of the Colonists. (Case III. Nos. 7 and 12; Case X. No. 24: adult male, female, and young bird.)

Frequents the rocks under the sea-cliffs and the shores of the sheltered bays and estuaries.

3. *ARDEA NOVÆ HOLLANDIÆ*, Lath. White-fronted Heron. (Case X. No. 33.)

Thinly distributed over both Islands, but rarer than the preceding species.

Genus *NYCTICORAX*. (Cosmopolite.)

NYCTICORAX CALEDONICUS, Latham. Nankeen Heron. (Case X. No. 18.)

A few specimens have been obtained in New Zealand, but these were probably stragglers from Australia, where the species is common.

Genus *BOTAURUS*. (All parts of the World.)

BOTAURUS PÆCILOPTILUS, Wagl. Bittern. "Matukuhurepo." (Case III. Nos. 13 and 15: male and female.)

Almost every country possesses a species of Bittern, and

that inhabiting New Zealand is a very fine one. It is common enough in swampy or sedgy districts. It appears to love a solitary life, being always met with singly. Although not strictly nocturnal, it is generally most active towards evening, when it startles the ear with its four loud booming notes, slowly repeated, like the distant roar of an angry bull.

Fam. PLATALEIDÆ.

Genus PLATALEA. (Cosmopolite.)

PLATALEA REGIA, Gould. Royal Spoonbill. "Kotukungutupapa." (Case X. No. 27.)

An occasional visitant to New Zealand from Australia.

ORDER STEGANOPODES.

Fam. PELECANIDÆ.

Genus PHALACROCORAX. (Cosmopolite.)

1. PHALACROCORAX VARIUS, Gmelin. Pied Shag. "Kawau."
(Case XI. Nos. 11, 14, and 15: adult, young, and nestling.)

This species of Shag frequents the freshwater streams, and is very seldom met with on the sea-coast.

2. PHALACROCORAX NOVÆ HOLLANDIÆ, Gould. Black Shag.
"Kawau-tai." (Case VII. Nos. 7 and 8; Case XI. No. 4: adult male, adult female, and nestling.)

This is identical with the Sea-Shag inhabiting Australia, and comes very near to *P. carbo* of Europe.

3. PHALACROCORAX BREVIROSTRIS, Gould. Short-billed Shag.
(Case VII. Nos. 1 and 2: male and female.)

Confined to New Zealand and the Chatham Islands.

Frequents the freshwater rivers and lagoons in all parts of the country, and, like the other members of the group, breeds in large communities.

4. *PHALACROCORAX PUNCTATUS*, Sparrm. Spotted Shag.
(Case VII. Nos. 3 and 4: male and female.)

This beautiful representative of the Crested Shags is abundant on the coast of the South Island, but is seldom met with on the northern side of Cook's Strait.

5. *PHALACROCORAX CARUNCULATUS*, Gmelin. Rough-faced Shag. (Case XI. No. 16.)

This very handsome species occurs more often at the Chatham Islands than in New Zealand.

6. *PHALACROCORAX GLAUCUS*, Homb. & Jacq. Brown Shag.
(Case VII. Nos. 5 and 6: male and female.)

A rare species, met with on the southernmost coast and on the rocky islands adjacent thereto.

7. *PHALACROCORAX MAGELLANICUS*, Gmelin. (Case XI. No. 10.)

This species, which comes rather near to *P. carunculatus*, inhabits the Auckland Islands and Campbell Island, to the south-east of New Zealand.

8. *PHALACROCORAX CHALCONOTUS*, Gray. (Case XI. No. 13: nestling.)

The home of this species appears to be the Auckland Islands; but a few examples have been taken on the east coast of Otago.

9. *PHALACROCORAX CIRRHATUS*, Gmelin. (Case XI. No. 12: young bird.)

Another rare species, only a few specimens of which have been obtained at the extreme south.

Genus PLOTUS. (Various parts of America, Asia, and Africa, Australia and New Guinea.)

PLOTUS NOVÆ HOLLANDIÆ, Gould. (Case XI. Nos. 8 and 9 : male and female.)

An inhabitant of Australia and New Guinea. Occurs only occasionally in New Zealand.

Genus DYSPORUS. (All parts of the Globe.)

DYSPORUS SERRATOR, Banks. Gannet. "Takupu." (Case VI. Nos. 18 and 17 : adult and young.)

This bird is a very powerful flier, and it is very interesting to watch it while in pursuit of its finny prey ; poising its body for an instant in mid air, it plunges headlong into the sea with a velocity that makes the spray rise several feet, entirely disappearing under the surface for some seconds, and then springing upwards with the buoyancy of a cork, after which it rests on the water for several minutes and then takes wing again to renew the feat.

ORDER TUBINARES.

Fam. PROCELLARIIDÆ.

Genus DIOMEDEA. (Colder parts of both Hemispheres.)

1. DIOMEDEA EXULANS, Linn. Wandering Albatros. "Torea." (Case V. Nos. 5, 7, and 8 ; Case XII. No. 9 : adult, young, and transitional states.)

This noble Albatros, of which the Collection contains a complete series, is very abundant in the seas that encompass New Zealand.

2. DIOMEDEA MELANOPHRYS, Boie. Mollymawk. (Case V. No. 6.)

This is the commonest species of Albatros inhabiting the southern seas, and generally follows the coasting vessels to the very entrance of the harbours. After boisterous weather it is

sometimes picked up on the ocean-beach, not actually lifeless, but so exhausted by fatigue as to be incapable of rising.

3. *DIOMEDEA CAUTA*, Gould. Shy Albatros. (Case XII. No. 7.)

This is an extremely rare species, and difficult to obtain on account of its remarkably shy nature. The specimen in the Collection was taken at the entrance to Wellington Harbour in a disabled state. It is believed to be the only one in Europe.

4. *DIOMEDEA FULIGINOSA*, Gmelin. Sooty Albatros. (Case XII. Nos. 1, 2, and 3: adult male, adult female, and young.)

This fine series represents a species which is comparatively scarce in New-Zealand seas, its true range being in more northern latitudes. The two adult examples were obtained off the Otago coast, and the young bird in Cook's Strait.

Genus *PELECANOIDES*. (Southern Hemisphere.)

- PELECANOIDES URINATRIX*, Gmel. Diving Petrel. (Case V. No. 3.)

Consorts in large flocks, and lives on medusæ and other marine productions.

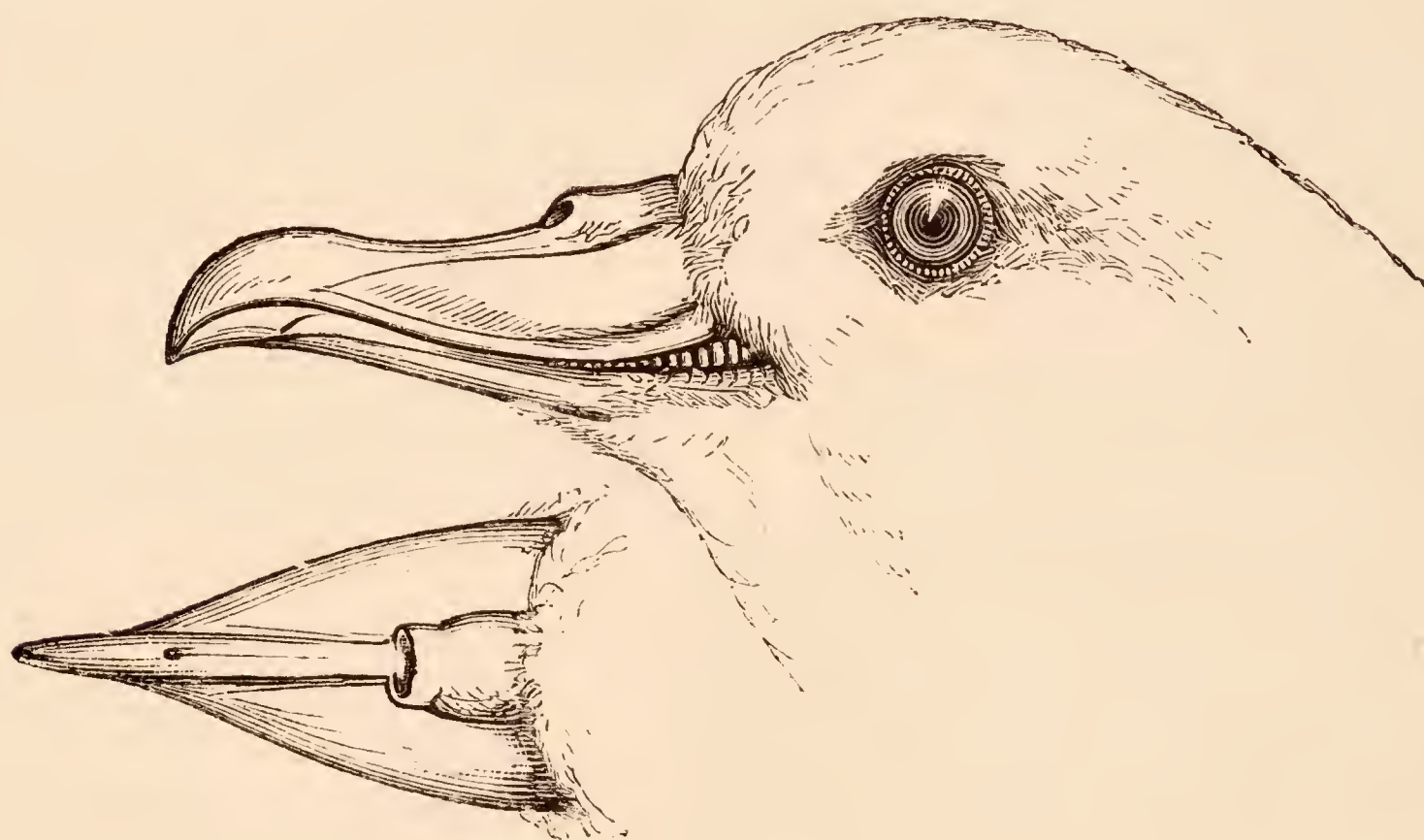
Genus *PRION*. (Seas around Australia and New Zealand.)

1. *PRION TURTUR*, Soland. Dove-Petrel. "Whiroia."
(Case V. Nos. 1 and 2: male and female.)



This charming little Petrel is extremely abundant off the New-Zealand coasts, and may often be observed in flocks numbering many hundreds. In boisterous weather it appears to suffer more than any other oceanic species from the fury of the tempest, and the sea-beach is sometimes found literally strewn with the bodies of the dead and dying.

2. PRION VITTATUS, Gmelin. Broad-billed Dove-Petrel.
(Case V. No. 4.)



Although closely resembling the preceding species in the colours of the plumage, this *Prion* may be readily distinguished by the peculiar form of its bill, which is much dilated at the base, and very conspicuously pectinated along the edges, as shown in the woodcut.

Genus DAPTION. (Southern Hemisphere.)

DAPTION CAPENSIS, Linn. Cape Petrel or "Cape Pigeon"
of sailors. (Case VI. No. 9.)

Common throughout the southern seas, being familiar to voyagers from its habit of following in the wake of the vessel to pick up any floating substances that may be thrown over-board.

Genus *ŒSTRELATA*. (Chiefly confined to the Southern Hemisphere)

ŒSTRELATA COOKII, Gray. Cook's Petrel. (Case XII. No. 4.)

Common in the Hauraki Gulf, where it frequents the small islands and nests in subterranean burrows in association with the Tuatara lizard (*Sphenodon punctatum*).

Genus *OSSIFRAGA*. (Southern Hemisphere.)

OSSIFRAGA GIGANTEA, Gmelin. Giant Petrel or "Nelly." (Case XII. No. 5: albino.)

This fine Petrel is universally dispersed over the temperate and high southern latitudes. The beautiful albino in the Collection was sent from New Zealand for exhibition at the Indian and Colonial Exhibition, 1886.

Genus *PUFFINUS*. (Both Hemispheres.)

1. *PUFFINUS GRISEUS*, Gmel. Mutton-bird. "Titi." (Case XI. No. 2.)

This species is very abundant, and forms an important article of food to the Maoris, who preserve the birds in their own fat, and store them in calabashes for future use.

2. *PUFFINUS GAVIUS*, Forst. Rain-bird. "Hakoakoa." (Case XI. No. 1.)

This Petrel, which enjoys a wide oceanic range, is comparatively common in the seas surrounding New Zealand; and after stormy weather it is frequently picked up either dead or in an exhausted state, among the sea-drift in the open strand.

Genus *MAJAJUEUS*. (Southern Hemisphere.)

1. *MAJAJUEUS PARKINSONI*, Gray. Black Petrel. "Toanui." (Case XII. Nos. 8 and 10: male and female.)

Frequents the Hauraki Gulf, resorting to the Little Barrier and the adjacent islands to breed, burrowing long chambers under ground for that purpose.

2. *MAJAJUEUS GOULDI*, Hutton. Gould's Petrel. "Oii."
(Case XII. No. 6.)

This "dark Petrel with a grey face" is common on the Tasmanian and New-Zealand coasts; but its claim to rank as a distinct species is open to some doubt.

Genus *PELAGODROMA*. (Southern Hemisphere.)

- PELAGODROMA MARINA*, Reich. White-faced Storm-Petrel.
(Case VI. Nos. 4 and 22: male and female.)

This is one of "Mother Carey's Chickens," and it has a wide range over the southern ocean, breeding on the small rocky islands lying off the coast.

ORDER ANSERES.

Fam. ANATIDÆ.

Genus *ANAS*. (Cosmopolite.)

1. *ANAS SUPERCILIOSA*, Gmelin. Grey Duck. "Parera."
(Case IX. No. 34.)

Common in every part of New Zealand, this Duck ranges also over the whole of Australia and Tasmania. It is met with in some of the Polynesian islands, and is said to occur on Norfolk Island also. It is deservedly in high estimation for the table, and from that point of view may be regarded as the most valuable of the indigenous birds.

2. *ANAS GIBBERIFRONS*, Müller. Little Teal. "Tete."
(Case XI. No. 5.)

This Duck, which ranges over Australia, New Caledonia, and the Indo-Malayan Archipelago, is of comparatively rare occurrence in New Zealand.

3. *ANAS CHLOROTIS*, Gray. Brown Duck. "Pateke."
(Case VIII. Nos. 1, 2, and 5; Case XI. No. 6: male
and female, different ages.)

Distributed all over the country, being met with on every inland lake, and often in the deep freshwater streams that run into them, where the overhanging vegetation affords ready shelter and concealment.

Genus *CASARCA*. (All continents but America.)

CASARCA VARIEGATA, Gmelin. Sheldrake or Paradise Duck.
"Putangitangi" (Case VIII. Nos. 13, 14, 12, and 15:
two males and two females.)

This beautiful Duck is spread all over the South Island, being extremely abundant in some localities; but in the North Island its range does not extend beyond latitude 39° S. It is easily domesticated and breeds freely in captivity.

Genus *RHYNCHASPIS*. (Europe, Asia, America,
and Australia.)

RHYNCHASPIS VARIEGATA, Gmel. Shoveller or Spoonbill Duck.
"Kuruwhengi." (Case VIII. Nos. 4, 6, and 7, exam-
ples of both sexes; No. 11, variety.)

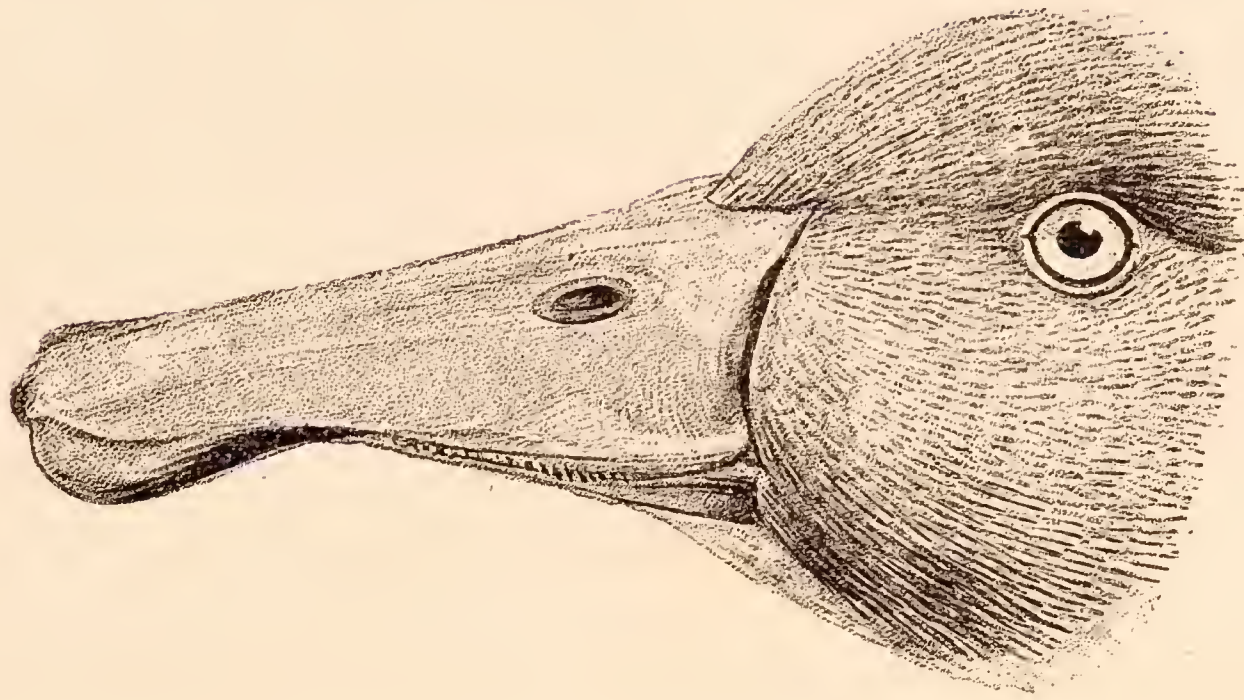
Frequents the shallow lagoons near the sea-coast, and the quiet bush-creeks overshadowed by trees, usually associating in pairs, but sometimes forming parties of three or more.

Genus *FULIGULA*. (Northern parts of Europe,
Asia, and America.)

FULIGULA NOVÆ ZEALANDIÆ, Gmelin. Black Teal. "Pa-
pango." (Case VIII. Nos. 3 & 8.)

Freely distributed over the country, frequenting most of the rivers and lagoons, but seldom being met with in the bush-creeks and never on the sea-coast.

Genus *HYMENOLÆMUS*. (Peculiar to New Zealand.)



HYMENOLÆMUS MALACORHYNCHUS, Gmelin. Whistling or Mountain Duck. "Wio." (Case VIII. Nos. 9 and 10: male and female.)

This singular Duck inhabits the mountain-streams, and is generally to be met with among the rapids or in the deep pools of water below them, where it appears to subsist chiefly on a species of caddisworm. Its bill is furnished with a peculiar fleshy membrane to enable it to collect this kind of food.

ORDER PYGOPODES.

Fam. *PODICIPEDIDÆ*.

Genus *PODICEPS*. (Cosmopolite.)

1. *PODICEPS CRISTATUS*, Linn. Crested Grebe. (Case XI. No. 7.)

A very rare species in New Zealand, and almost confined to the Alpine lakes.

2. *PODICEPS RUFPECTUS*, Gray. Dabchick. "Totokipio." (Case III. Nos 17 and 19: male and female.)

Like the other members of the group, this little Grebe dives with amazing agility, and, unless taken by surprise,

will effectually dodge the gun by disappearing under the surface at the first flash and before the charge of shot has reached it.

ORDER IMPENNES.

Fam. SPHENISCIDÆ.

Genus EUDYPTES, Vieill. (Southern Hemisphere.)

EUDYPTES CHRYSOCOMUS, Forst. Crested Penguin. "Hoi-ho." (Case VII. No. 9, adult; Case XI. No. 3, nestling.)

Genus EUDYPTULA. (Southern Hemisphere.)

1. EUDYPTULA MINOR, Forst. Blue Penguin. "Korora."
(Case VII. No. 10.)

Comparatively common on the shores of both Islands. It nests in underground burrows, and lays two, almost spherical, white eggs.

2. EUDYPTULA UNDINA, Gould. Little Penguin. "Korora."
(Case IX. No. 33.)

Less common than the preceding species, but of precisely similar habits.

II. SUBCLASS RATITÆ.

ORDER APTERYGES.

Fam. APTERYGIDÆ.

Genus APTERYX. (Peculiar to New Zealand.)

1. APTERYX BULLERI, Sharpe. North-Island Kiwi. (Case I. No. 13; Case IX. Nos. 25, 27, & 28.)

This is one of the most extraordinary of all existing birds. It is practically wingless, its anterior limbs being mere rudiments, only about an inch in extent. It is strictly nocturnal in its habits, and subsists chiefly on earthworms, which it obtains by probing the ground with its long bill, the nostrils being placed at the extremity of this organ instead of at the base, as in all other birds.

During the daytime it remains concealed in underground burrows, where it also forms its nest and hatches its young.

The egg of this bird is of remarkable size, measuring 5 inches in length by 3 in breadth, and is perfectly white till soiled in the process of incubation.

2. APTERYX AUSTRALIS, Shaw. South-Island Kiwi. (Case I. Nos. 9 and 14: male and female.)

This species is closely allied to the former, but is larger, of a lighter brown colour, and with softer plumage. Its range is confined to the mountainous parts of the South Island.

3. APTERYX OWENI, Gould. Grey Kiwi. (Case I. Nos. 7, 11, and 12: adult male, and two younger birds, male and female.)

This form is readily distinguishable from the others by its smaller size and spotted grey plumage. It is comparatively common in the alpine parts of the South Island, and a few specimens have recently been obtained in the Tararua ranges, near Wellington, in the North Island.

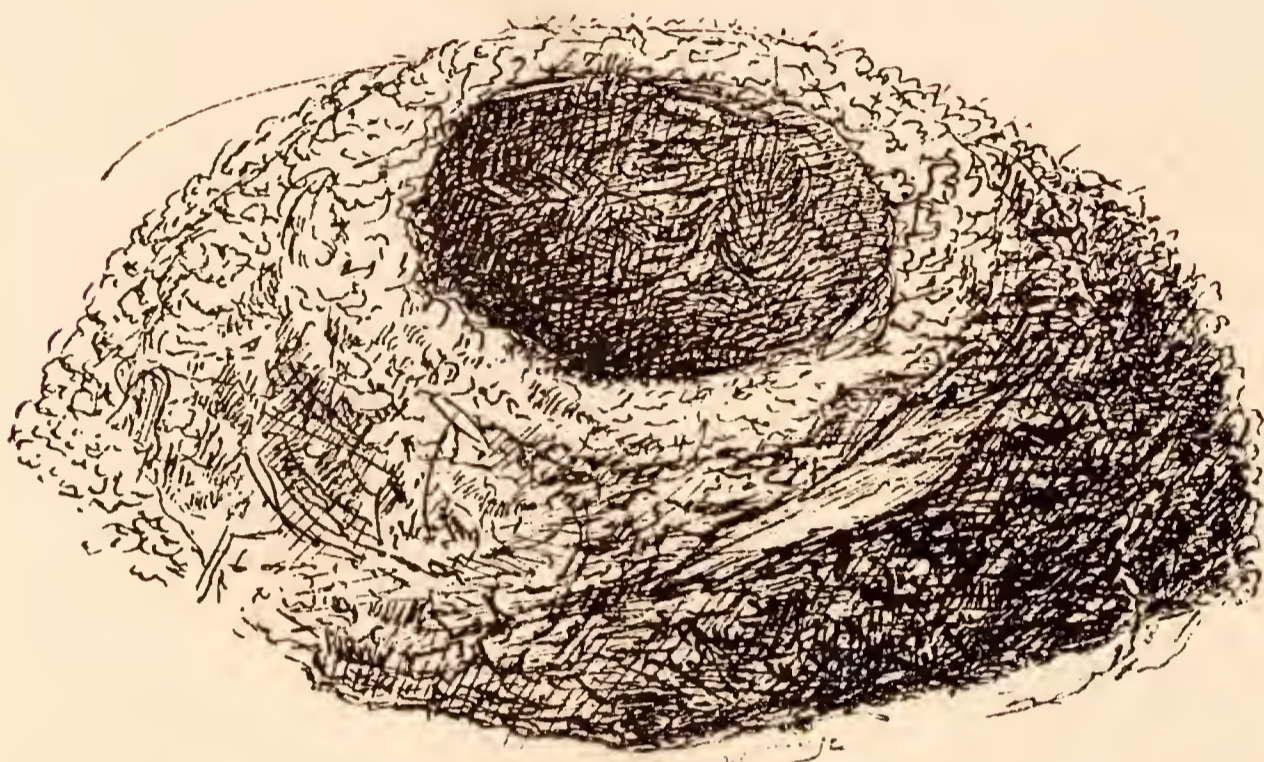


NEST OF SADDLE-BACK (*Creedion carunculatus*).

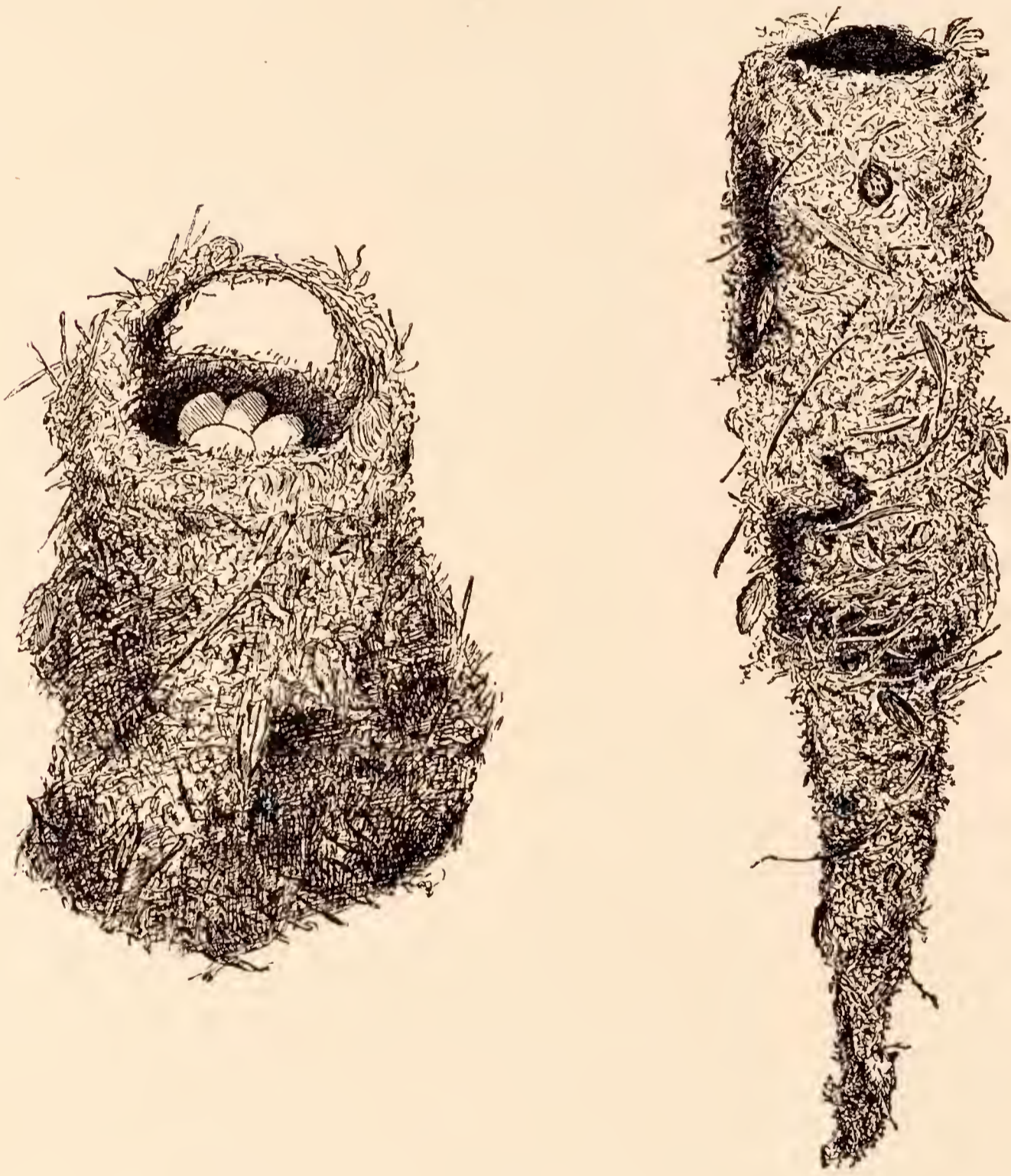


NEST OF NORTH-ISLAND ROBIN (*Miro australis*).





NESTS OF SOUTH-ISLAND TOMTIT (*Myiomoira macrocephala*).



ECCENTRIC NESTS OF *Myiomoira macrocephala*.

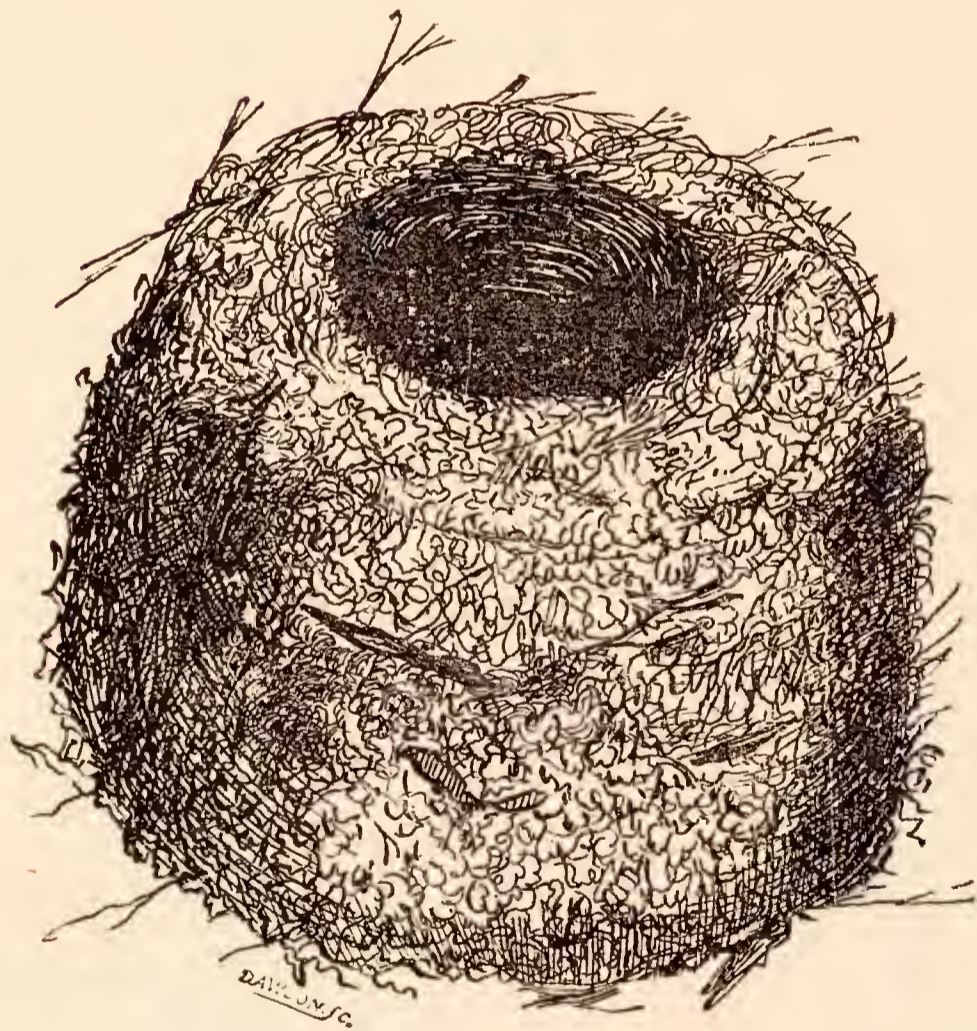


NESTS OF GREY WARBLER (*Gerygone flaviventris*).





NEST OF WHITE-HEAD (*Clitonyx albicapilla*).

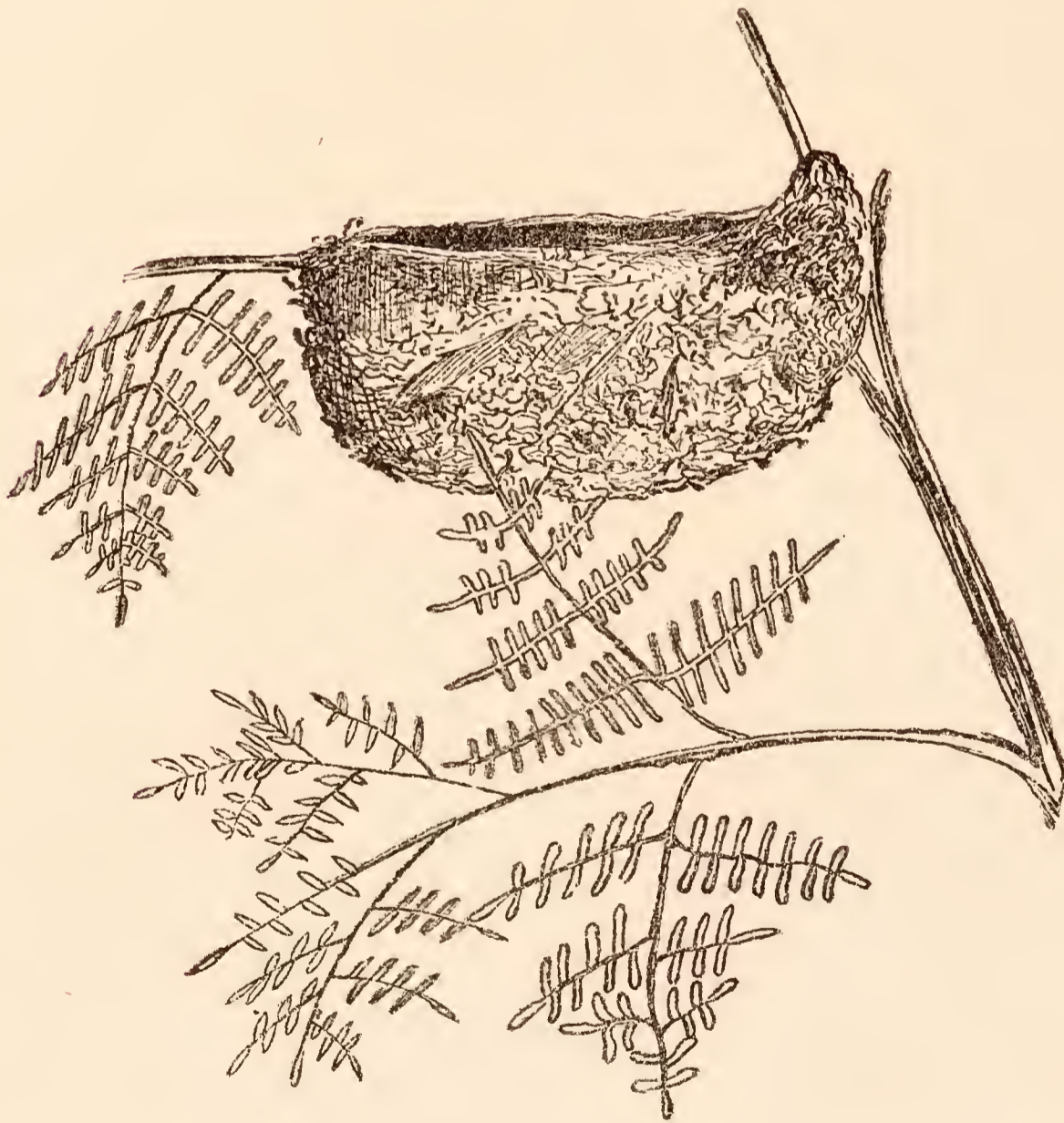


NEST OF YELLOW-HEAD (*Clitonyx ochrocephala*).





NEST OF FERN-BIRD (*Sphenæacus punctatus*).



NEST OF SILVER-EYE (*Zosterops carulescens*).





NEST OF BELL-BIRD (*Anthornis melanura*).



NEST OF TUI (*Prosthemadera novae zealandiae*).





NEST OF ROCK-WREN (*Xenicus gilviventris*).
Four-fifths natural size.

REFERENCE LIST.

CASE I.

1. STRINGOPS HABROPTILUS, Gray. Ground-Parrot. "Kakapo." (Very old bird.)
2. NESTOR MERIDIONALIS, Gmel. Brown Parrot. "Kaka."
♀.
3. NESTOR MERIDIONALIS, Gmel. Brown Parrot. "Kaka."
♂.
- 4 & 10. STRINGOPS HABROPTILUS. ♀. *Vide* No. 1.
5. NESTOR MERIDIONALIS. *Vide* No. 2. (Young bird.)
6. STRINGOPS HABROPTILUS. *Vide* No. 1. (Young bird.)
7. APTERYX OWENI, Gould. Grey Kiwi. ♀. *Vide*
Case IX. No. 26.
8. STRINGOPS HABROPTILUS. ♂. *Vide* No. 1.
9. APTERYX AUSTRALIS, Shaw. South-Island Kiwi. ♀.
11. APTERYX OWENI. (Young bird.) ♀. *Vide* No. 7.
12. APTERYX OWENI. (Young bird.) ♂. *Vide* No. 7.
13. APTERYX BULLERI, Sharpe. North-Island Kiwi. ♂.
14. APTERYX AUSTRALIS. ♂. *Vide* No. 9.

CASE II.

1. ANTHORNIS MELANURA, Sparrm. Bell-bird. "Korimako." ♂.
- 2 & 5. EUDYNAMIS TAITENSIS, Sparrm. Long-tailed Cuckoo. "Koheperoa." ♂ & ♀.
3. MYIOMOIRA MACROCEPHALA, Gmel. South-Island Tomtit. ♂.
4. ANTHORNIS MELANURA. ♂. *Vide* No. 1.
- 6 & 22. CREADION CARUNCULATUS, Gmel. Saddle-back. "Tieke." ♂.
- 7 & 8. CERTHIPARUS NOVÆ ZEALANDIÆ, Gmel. New-Zealand Creeper. "Toitoi." ♂.
9. PROSTHEMADERA NOVÆ ZEALANDIÆ, Gmel. Parson-bird. "Tui." ♀.
10. PROSTHEMADERA NOVÆ-ZEALANDIÆ, Gmel. (Variety.)
- 11 & 24. CARPOPHAGA NOVÆ ZEALANDIÆ, Gmel. New-Zealand Wood-Pigeon. "Kereru." ♂ & ♀.
- 12 & 13. MYIOMOIRA MACROCEPHALA. ♀. *Vide* No. 3.
14. TURNAGRA CRASSIROSTRIS, Gmel. Thick-billed Thrush. "Piopio." ♂.
15. TURNAGRA CRASSIROSTRIS, Gmel. (Young.)
16. PETROCHELIDON NIGRICANS, Vieillot. Australian Tree-Swallow.
- 17 & 23. CREADION CINEREUS, Buller. "Tieke." ♀ & ♂.
18. EUDYNAMIS TAITENSIS. (Young bird.)
19. EUDYNAMIS TAITENSIS. ♂. *Vide* No. 2.

20. MIRO ALBIFRONS, Less. South-Island Robin. "Tou-touwai." ♀.
- 21, 30, & 36. NESTOR NOTABILIS, Gould. Mountain Parrot. "Kea." ♂ & ♀.
25. PROTHEMADERA NOVÆ ZEALANDIÆ. ♂. *Vide* No. 9.
- 26 & 31. CLITONYX OCHROCEPHALA, Gmel. The Yellow-head. "Popokatea." ♂.
- 27 & 29. GERYGONE FLAVIVENTRIS, Gray. Grey Warbler. "Riroriro." ♀ & ♂.
28. TURNAGRA CRASSIROSTRIS. ♀. *Vide* No. 14.
32. CLITONYX OCHROCEPHALA. (Young bird.) *Vide* No. 26.
- 33 & 46. HETERALOCHA ACUTIROSTRIS, Gould. "Huia." ♂ & ♀.
- 34 & 35. EURYSTOMUS PACIFICUS, Lath. Australian Roller. ♂ & ♀.
- 37, 38, & 39. GROUP OF CLITONYX OCHROCEPHALA. *Vide* No. 26.
40. CARPOPHAGA NOVÆ ZEALANDIÆ. ♂. *Vide* No. 11.
41. CHRYSOCOCCYX LUCIDUS, Gmel. Shining Cuckoo. "Warauroa." ♀.
42. SPHENEACUS PUNCTATUS, Gray. Fern-bird. "Matata." ♀.
43. HETERALOCHA ACUTIROSTRIS. ♀. *Vide* No. 33.
45. HARPA FEROX, Peale. Bush-Hawk. "Karcwarewa." ♀.
- 47 & 48. PLATYCERCUS NOVÆ ZEALANDIÆ, Sparrm. Red-fronted Parrakeet. "Kakariki." ♂.
49. PLATYCERCUS NOVÆ ZEALANDIÆ, Sparrm. Red-fronted Parrakeet. "Kakariki." ♀.

50. *PROSTHEMADERA NOVÆ ZEALANDIÆ*. ♂. (Young bird.)
Vide No. 9.
52. *NESTOR NOTABILIS*. ♀. *Vide* No. 21.
- 53 & 63. *GLAUCOPIS CINEREA*, Gmel. Orange-wattled Crow.
"Kokako." ♂ & ♀.
- 54 & 56. *PLATYCERCUS AURICEPS*, Kuhl. Yellow-fronted
Parrakeet. "Kakariki." ♀ & ♂.
55. *PLATYCERCUS ALPINUS*, Buller. Orange-fronted Parra-
keet. "Kakariki." ♂.
57. *HARPA FEROX*. Devouring Kingfisher. *Vide* No. 45.
58. *CIRCUS GOULDI*, Bonap. Harrier. "Kahu." ♂.
(Adult.)
59. *CIRCUS GOULDI*, Bonap. Harrier. "Kahu." (Young.)
- 60 & 61. *HALCYON VAGANS*, Less. New-Zealand Kingfisher.
"Kotare." ♂. (Adult and young.)
62. *CIRCUS GOULDI*. ♂. Devouring Tui. *Vide* No. 58.
- 64 & 65. *GLAUCOPIS WILSONI*, Bonap. "Kokako." ♂ & ♀.
66. *GRAUCALUS MELANOPS*, Vig. & Horsf. Australian
Shrike.
67. *ACANTHOCHÆRA CARUNCULATA*, Lath. Wattled Honey-
eater.

CASE III.

- 1, 2, & 3. GROUP OF *LIMOSA NOVÆ ZEALANDIÆ*, Gray. The
Southern Godwit. "Kuaka." ♂ & ♀. *Vide*
Case IX. Nos. 29 & 30.
- 4, 5, & 6. GROUP OF *HIMANTOPUS LEUCOCEPHALUS*, Gould.

- White-headed Stilt. "Tutumata." (Old and young.)
7. ARDEA SACRA, Gmel. Blue Heron. "Matuku-moana."
♀.
8. PODICEPS CRISTATUS, Linn. Crested Grebe. ♀.
9. HÆMATOPUS UNICOLOR, Forst. Black Oyster-catcher.
"Torea." ♀.
10. HÆMATOPUS LONGIROSTRIS, Vieill. Pied Oyster-catcher.
"Torea." ♀.
11. HÆMATOPUS UNICOLOR. ♂. *Vide* No. 9.
12. ARDEA SACRA. ♂. *Vide* No. 7.
- 13 & 15. BOTAURUS PÆCILOPTILUS, Wagl. Bittern. "Ma-
tuku-hurepo." ♂ & ♀.
18. NUMENIUS CYANOPUS, Vieill. Australian Curlew.
- 17 & 19. PODICEPS RUFPECTUS, Gray. Dabchick. "Toto-
kipio." ♂ & ♀.

CASE IV.

- 1 & 6. OCYDROMUS FUSCUS, Dubus. Black Woodhen. ♀.
- 2 & 3. OCYDROMUS FUSCUS, Dubus. Black Woodhen. ♂.
- 4, 10, & 13. OCYDROMUS EARLI, Gray. North-Island
Woodhen. "Weka." ♂ & ♀.
5. OCYDROMUS AUSTRALIS, Sparrm. (Chick.) South-
Island Woodhen. "Weka."
7. OCYDROMUS AUSTRALIS. ♂. *Vide* No. 5.
8. RALLUS PHILIPPENSIS, Linn. Striped Rail. "Moho-
pereru." ♂.

9. *RALLUS PHILIPPENSIS*, Linn. Striped Rail. "Moho-pereru." ♀.
11. *OCYDROMUS AUSTRALIS*. ♀. *Vide* No. 5.
12. *RALLUS PHILIPPENSIS*. ♀. *Vide* No. 8.
- 14, 15, & 16. GROUP OF *PORPHYRIO MELANONOTUS*, Temm. Swamp-hen. "Pukeko." ♂ & ♀.

CASE V.

- 1 & 2. *PRION TURTUR*, Soland. Dove-Petrel. "Whiroia." ♂ & ♀.
3. *PELECANOIDES URINATRIX*, Gmel. Diving Petrel. ♂.
4. *PRION VITTATUS*, Gmel. Broad-billed Dove-Petrel. ♂.
5. *DIOMEDEA EXULANS*, Linn. Wandering Albatros. "Toroa." (Adult.)
6. *DIOMEDEA MELANOPHRYS*, Boie. Mollymawk. ♂.
7. *DIOMEDEA EXULANS*. (Young bird.) *Vide* No. 5.
8. *DIOMEDEA EXULANS*. (In transition plumage.)

CASE VI.

- 1 & 3. *STERNA CASPIA*, Pall. Common Tern. "Tara-nui." ♂ & ♀.
2. *STERNA FRONTALIS*, Gray. "Sea-Swallow." "Tara." ♀.
4. *PELAGODROMA MARINA*, Reich. White-faced Storm-Petrel. ♂.

5. STERNA CASPIA. (Winter plumage.) *Vide* No. 1.
6. STERNA FRONTALIS. ♂. *Vide* No. 2.
7. LARUS SCOPULINUS, Forst. Mackerel Gull. "Tara-
punga." ♀.
8. LARUS DOMINICANUS, Licht. Black-backed Gull.
"Karoro." (In transition plumage.)
9. DAPTION CAPENSIS, Linn. Cape Petrel. ♂.
10. STERNA FRONTALIS. ♂. (In full summer plumage.)
Vide No. 2.
11. LARUS DOMINICANUS. (Young state.) *Vide* No. 8.
- 12 & 23. CHARADRIUS BICINCTUS, Jard. Banded Dottrel.
"Pohowera." ♂ & ♀.
13. LARUS DOMINICANUS. (Adult.) *Vide* No. 8.
14. ANARHYNCHUS FRONTALIS, Quoy & Gaim. Wry-billed
Plover. "Ngutupare." ♀.
- 15 & 20. STERNA FRONTALIS. (Young state.) *Vide* No. 2.
16. LARUS DOMINICANUS. *Vide* No. 8.
17. DYSPORUS SERRATOR, Banks. Gannet. "Takupu."
(Young bird.)
18. DYSPORUS SERRATOR, Banks. Gannet. "Takupu."
(Adult.)
19. STERNA ANTARCTICA, Forst. Black-fronted Tern.
"Tara."
21. CHARADRIUS BICINCTUS. ♂. *Vide* No. 12.
22. PELAGODROMA MARINA, Reich. ♀. *Vide* No. 4.

CASE VII.

- 1 & 2. PHALACROCORAX BREVIROSTRIS, Gould. Short-billed Shag. "Kawau." ♂ & ♀.
- 3 & 4. PHALACROCORAX PUNCTATUS, Sparrm. Spotted Shag. ♂ & ♀.
- 5 & 6. PHALACROCORAX GLAUCUS, Homb. & Jacq. Brown Shag. ♂ & ♀.
7. PHALACROCORAX NOVÆ HOLLANDIÆ, Gould. Black Shag. ♀.
8. PHALACROCORAX NOVÆ HOLLANDIÆ, Gould. Black Shag. (Nestling.)
9. EUDYPTES CHRYSOCOMUS, Forst. Crested Penguin. ♂.
10. EUDYPTULA MINOR, Forst. Blue Penguin. "Korora."

CASE VIII.

- 1, 2, & 5. ANAS CHLOROTIS, Gray. Brown Duck. "Pateke." ♀ & ♂.
3. FULIGULA NOVÆ ZEALANDIÆ, Gmel. Black Teal. "Pangango." ♂.
- 4, 6, & 7. RHYNCHASPIS VARIEGATA, Gmel. Shoveller. "Kuruwhengi." ♂ & ♀.
8. FULIGULA NOVÆ ZEALANDIÆ. ♀. *Vide* No. 3.
- 9 & 10. HYMENOLÆMUS MALACORHYNCHUS, Gmel. Whistling or Mountain Duck. "Wio." ♀ & ♂.

11. RHYNCHASPIS VARIEGATA. ♂. (Variety.) *Vide* No. 4.
 12 & 15. CASARCA VARIEGATA, Gmel. Paradise Duck.
 "Putangitangi." ♀.
 13 & 14. CASARCA VARIEGATA, Gmel. Paradise Duck.
 "Putangitangi." ♂.

CASE IX.

- 1 & 2. ANTHORNIS MELANOCEPHALA, Gray. Chatham-
 Island Bell-bird. ♂ & ♀.
 3 & 4. CLITONYX ALBICAPILLA, Less. The White-head.
 "Popokatea." ♂ & ♀.
 5 & 6. MIRO AUSTRALIS, Forster. North-Island Robin.
 "Pitoitoi." ♂ & ♀.
 7. STREPSILAS INTERPRES, Linn. The Turnstone.
 8. CHARADRIUS BICINCTUS, Jard. Banded Dottrel.
 9. ANTHORNIS MELANURA, Sparrm. Bell-bird. "Kori-
 mako." ♀.
 10. TURNAGRA HECTORI, Buller. North-Island Thrush.
 "Piopio."
 11. HARPA NOVÆ ZEALANDIÆ, Gmel. Quail-Hawk. ♀.
 (Very fine example.)
 12. CHRYSOCOCCYX LUCIDUS, Gmel. Shining Cuckoo.
 "Warauroa." (Young bird.)
 13. Nest of ZOSTEROPS CÆRULESCENS, with eggs.
 14. NESTOR MERIDIONALIS, Gmel. (*var.* MONTANUS). Alpine
 Kaka-Parrot.

- 15 & 16. SPILOGLAUX NOVÆ ZEALANDIÆ, Gmel. New-Zealand Owl. "Ruru." ♂ & ♀.
- 17, 18, & 19. XENICUS LONGIPES, Gmel. Bush-Wren. "Matuhituhi." ♂, ♀, & young.
20. ORTYGOMETRA AFFINIS, Gray. Swamp-Rail. "Mohopatatai."
21. ANARHYNCHUS FRONTALIS, Quoy & Gaim. Wry-billed Plover. "Ngutupare."
22. SCELOGLAUX ALBIFACIES, Gray. The Laughing Owl. "Whekau."
- 23 & 24. SPILOGLAUX NOVÆ ZEALANDIÆ. *Vide* Nos. 15 & 16. (Nestlings.)
- 25, 27, & 28. APTERYX BULLERI, Sharpe. The North-Island Kiwi. ♂ & ♀ (in three characteristic attitudes).
26. APTERYX OWENI, Gould. The Grey Kiwi. (In the act of feeding.)
- 29 & 30. LIMOSA NOVÆ ZEALANDIÆ, Gray. The Southern Godwit. "Kuaka." ♂ & ♀.
31. HIMANTOPUS NOVÆ ZEALANDIÆ, Gould. Black Stilt-Plover. "Kaki."
32. CHARADRIUS OBSCURUS, Gmel. Red-breasted Plover. "Tuturiwhata." (Full nuptial plumage.)
33. EUDYPTULA UNDINA, Gould. Little Penguin.
34. ANAS SUPERCILIOSA, Gmel. Common Grey Duck. "Parera."
35. OCYDROMUS BRACHYPTERUS, Lafr. Buff-marked Woodhen. (With nest containing eggs.) "Weka." ♀.

CASE X.

- 1 & 2. *ZOSTEROPS CÆRULESCENS*, Lath. The Silver eye.
"Tau-hou." ♂ & ♀.
3. *CERTHIPARUS NOVÆ ZEALANDIÆ*, Gmel. New-Zealand
Creeper. Young male.
- 4, 5, & 6. *MYIOMOIRA TOITOI*, Lesson. North-Island Tom-
tit. ♂, ♀, & young.
- 7 & 8. *ACANTHIDOSITTA CHLORIS*, Sparrm. The Rifleman.
"Tititipounamu." ♂ & ♀.
9. *MIRO AUSTRALIS*, Forst. North-Island Robin. "Pitoi-
toi." ♀.
10. *PLATYCERCUS AURICEPS*, Kuhl. Yellow-fronted Parra-
keet. "Kakariki."
11. *PLATYCERCUS ROWLEYI*, Buller. Rowley's Parrakeet.
(South Island.)
12. *PLATYCERCUS NOVÆ ZEALANDIÆ*, Sparrm. Red-fronted
Parrakeet. (Yellow-spotted variety.)
13. *CHARADRIUS FULVUS*, Gmel. Eastern Golden Plover.
♀. (New-Zealand example.)
14. *ARDEA EGRETTA*, Gmel. White Crane. "Ko-
tuku."
- 15 & 17. *CHARADRIUS OBSCURUS*, Gmel. Red-breasted
Plover. "Tuturiwhata." (Summer and winter
plumage.)
16. *ANTHORNIS MELANURA*, Sparrm. Bell-bird. "Kori-
mako." ♀.

18. NYCTICORAX CALEDONICUS, Lath. The Nankeen Heron.
- 19 & 20. HARPA NOVÆ ZEALANDIÆ, Gmel. The Quail-Hawk.
"Karearea."
21. CARPOPHAGA NOVÆ ZEALANDIÆ, Gmel. New-Zealand
Wood-Pigeon. "Kereru." ♀.
- 22 & 23. ANTHUS NOVÆ ZEALANDIÆ, Gray. New-Zealand
Pipit. "Pihoihoi." ♂ & ♀.
24. ARDEA SACRA, Gmel. Blue Heron. "Matuku-moana."
(Young.) *Vide* Case III. Nos. 7 & 12.
25. OCYDROMUS ASSIMILIS, Buller. (Variety from South
Island.)
26. TRINGA ACUMINATA, Horsf. Sandpiper.
27. PLATALEA REGIA, Gould. Royal Spoonbill. "Kotuku-
ngutupapa."
28. RECURVIROSTRA NOVÆ HOLLANDIÆ, Gould. Red-necked
Avocet. ♀. (Killed in New Zealand.)
- 29, 30, 31, & 32. COTURNIX PECTORALIS, Gould. The Aus-
tralian Quail. ♂, ♀, & young. (The nearest
ally of the extinct *C. novæ zealandiæ*.)
33. ARDEA NOVÆ HOLLANDIÆ, Lath. The White-fronted
Heron.
34. CHARADRIUS RUFICAPILLUS, Temm. The Red-capped
Dottrel.
- 35, 36, & 37. RHIPIDURA FLABELLIFERA, Gmel. The Pied
Fantail. "Piwakawaka." ♂, ♀, and young.

CASE XI.

1. PUFFINUS GAVIUS, Forst. Rain-bird. "Hakoakoa."
2. PUFFINUS GRISEUS, Gmel. Mutton-bird. "Titi."
3. EUDYPTES CHRYSOCOMUS, Forst. (Chick of Crested Penguin.)
4. PHALACROCORAX NOVÆ HOLLANDIÆ, Gould. Black Shag. "Kawau." (Adult.)
5. ANAS GIBBERIFRONS, Müller. Little Teal.
6. ANAS CHLOROTIS, Gray. Brown Duck. "Pateke."
7. PODICEPS CRISTATUS, Linn. Crested Grebe. *Vide* Case III. No. 8.
- 8 & 9. PLOTUS NOVÆ HOLLANDIÆ, Gould. The Australian Darter. ♂ & ♀.
10. PHALACROCORAX MAGELLANICUS, Gmel. (Adult: from Auckland Islands.)
- 11, 14, & 15. PHALACROCORAX VARIUS, Gmel. Pied Shag. "Kawau." (Adult, young bird, and nestling.)
12. PHALACROCORAX CIRRHATUS, Gmel. (Young.)
13. PHALACROCORAX CHALCONOTUS, Gray. (Young in down.)
16. PHALACROCORAX CARUNCULATUS, Gmel. Rough-faced Shag. ♂. (Adult.)

CASE XII.

- 1, 2, & 3. DIOMEDEA FULIGINOSA, Gmel. The Sooty Albatros. ♂, ♀, & young.
4. CESTRELATA COOKII, Gray. Cook's Petrel.

5. *OSSIFRAGA GIGANTEA*, Gmel. The Giant Petrel. (Albino.)
6. *MAJAJUEUS GOULDI*, Hutton. Gould's Petrel. "Oii."
♂ & ♀.
7. *DIOMEDEA CAUTA*, Gould. The Shy Albatros.
- 8 & 10. *MAJAJUEUS PARKINSONI*, Gray. The Black Petrel.
"Toa-nui." ♂ & ♀.
9. *DIOMEDEA EXULANS*, Linn. The Wandering Albatros.
"Toroa." (Extreme adult plumage.)

FRAME OF MOA-FEATHERS.

ON pages 7-13 of this 'Guide' will be found illustrations of several colossal species of *Dinornis* formerly inhabiting New Zealand and now known to us only by their fossil remains. In connection therewith the frame of Moa-feathers which forms part of the Manor-House Collection is of special interest.

These feathers are a portion of the unique collection exhibited by Mr. Taylor White at the Colonial and Indian Exhibition, 1886. They were discovered by him in 1874, in a cave at Queenstown, in the provincial district of Otago, N.Z., and were first recorded by him in the 'Transactions of the New-Zealand Institute,' vol. viii. p. 99. They are also mentioned in Sir Richard Owen's 'Extinct Wingless Birds of New Zealand,' vol. i. p. 447.

This valuable collection was dispersed at the close of the Exhibition. Some of the feathers were acquired by the British Museum, another lot went to the Cambridge Museum, and others into the hands of private purchasers.

Sir Walter Buller thus refers to them in the Introduction to his second edition of 'The Birds of New Zealand' (vol. i. p. xxxi):—"Some of these feathers are now in my possession; they are in a high state of preservation, the colours being perfectly fresh, and many of them have both shafts

quite entire. The largest of them measures nearly $6\frac{1}{2}$ inches in length, and is of a uniform pale yellowish white, being the only feather of this kind out of more than a hundred collected. It is single-shafted, there being no sign whatever of the former attachment of an accessory plume; the barbs are rather distant, unconnected, and filamentary or hair-like, and are placed at such an angle with the shaft as to give a maximum breadth of about an inch and a half in the middle portion of the feather, the width diminishing towards the tip and tapering downwards almost to the base of the tube, there being no downy part. This unique feather is evidently a dorsal one, and probably helped to form the loose uropygial fringe or lower mantle in one of the smaller species of Moa. Another feather belonging to the same bird, and measuring nearly five inches in length, is of a similar filamentary character, but is furnished with an accessory plume only $\cdot 25$ of an inch shorter than the main one; the former being dark brown with black margins, and the latter of a uniform brownish-yellow colour. There are smaller feathers, all of them single-shafted, with more distant, rigid, and shortened barbs, in which the shaft is of a transparent yellow colour, like polished amber. These, I should infer from their character, are from the neck of the bird. The rest of the feathers in this group, some of which are double-shafted, are deeply webbed with silvery-brown down for about two thirds of their basal extent, reddish brown in their apical portion, with whitish tips. It is probable that all these feathers belonged to *Dinornis casuarinus*, bones of which species were found in association with them in the Wakatipu cave, together with fragments of egg-shell of a pale green colour. The feathers from the Queenstown cave are of an entirely different type, and these may perhaps have belonged to *Dinornis didinus*. They measure from four to five inches in length; from the base for more than two thirds of their extent they have thick downy webs, of a uniform width of

half an inch and of a greyish-brown colour, darker towards the shaft, the barbs having minute, thick-set barbules; then follow long, unconnected filaments, of a still darker brown, which run into a compact apical web of dark purple-brown, tipped with yellowish brown. Many of these feathers have an accessory plume, but this is always downy in its whole extent, which scarcely exceeds half the length of the main shaft. On placing a number of these feathers together they present a soft, glossy appearance and look as fresh as if plucked yesterday from the body of a living bird."

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